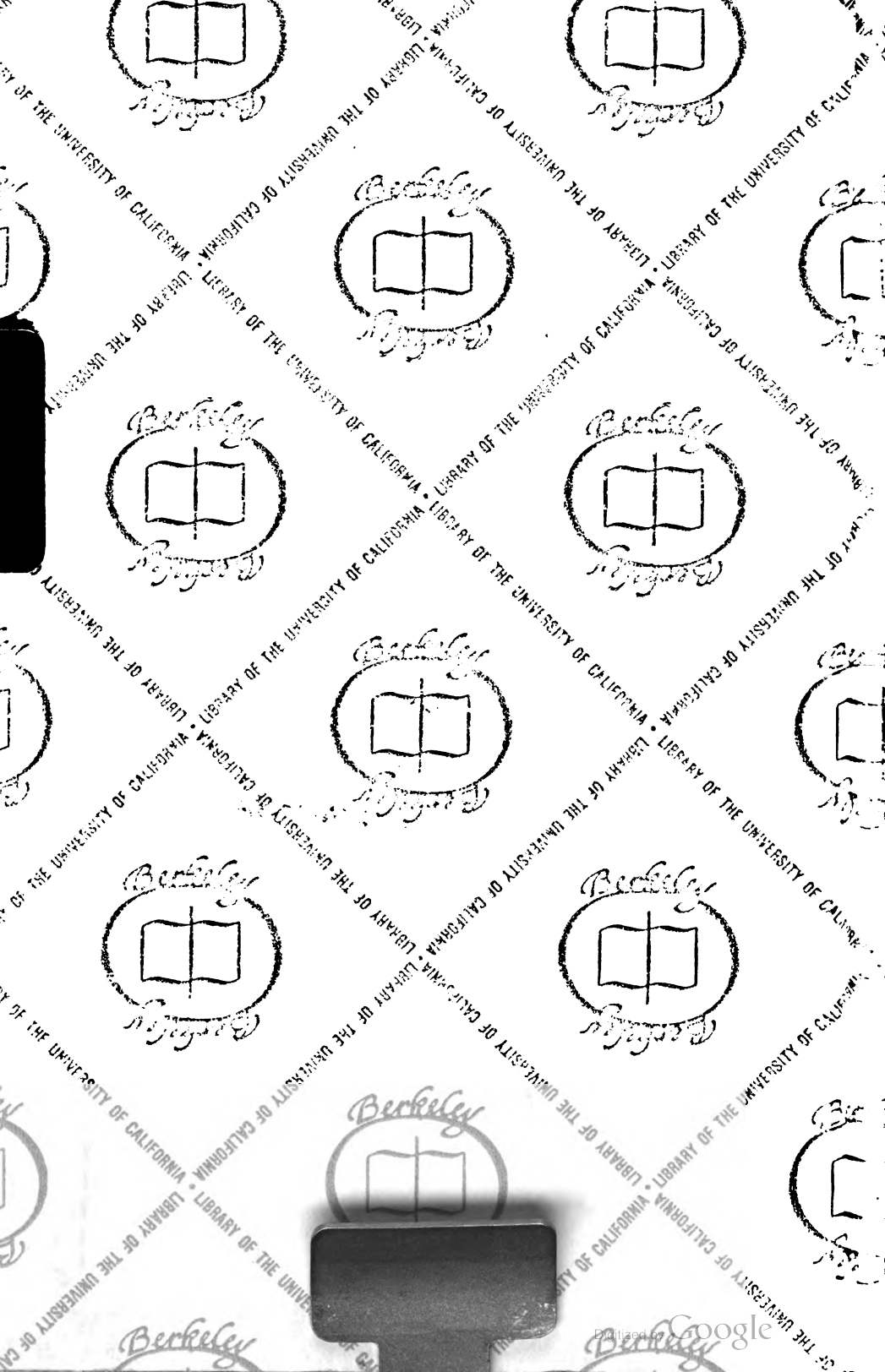

THE STANDARD MANUAL

OF

SODA AND OTHER BEVERAGES.

A TREATISE ESPECIALLY ADAPTED TO THE
REQUIREMENTS OF DRUGGISTS AND CONFECTIONERS.

BY A. EMIL HISS, PH. G.

INCLUDING FORMULAS FOR
COLORING AGENTS, FOAMS, EXTRACTS,
ESSENCES, FRUIT JUICES, SYRUPS, MEADS, BEERS, ALES,
PHOSPHATES, LACTARTS, EGG DRINKS, ADES, MILK AND CREAM
DRINKS, MEDICINAL DRINKS, POPULAR FANCY DRINKS, HOT
SODA DRINKS, ICE CREAMS, CIDERS, FRUIT WINES,
LIQUEURS, CORDIALS, BITTERS, CREMES.

ALSO A CHAPTER ON ARTICLES MORE OR LESS
WITHIN THE ESPECIAL PROVINCE OF THE DRUGGIST, TREATING OF
BAKING POWDERS, FLAVORINGS, BEEF TEA, BUTTER COLORS, CURRY POWDERS,
INFANTS' AND INVALIDS' FOODS, KUMISS AND KEFIR PREPARATIONS,
MALTED MILKS, PEPTONIZED FOODS, VINEGARS, ETC.

REVISED AND ENLARGED EDITION.

OVER FIFTEEN HUNDRED FORMULAS.

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INTRODUCTORY.

The presentation of this work, compiled, arranged and edited by a pharmacist, requires no apology. Its scope embraces not only all kinds of soda water drinks and requisites, and all the miscellaneous articles required for the soda water department, but also the fancy drinks sold by many pharmacists, such as cordials, crêmes, and ratafias, as well as information regarding extracts and flavors, sterilization and pasteurization of milk, peptonization of foods, kumiss and kefir, infant food and feeding, and other information relating to dietetic articles within the province of the pharmacist. This work, therefore, forms a most complete and fitting companion to the STANDARD FORMULARY.

To every dispenser of "soda" it may be said that no other single work gives complete and correct information relating to every detail of the soda water department. It is hoped, therefore, that this volume will prove a valuable adjunct to the business of the soda dispenser.

In compiling this work the editor has had the invaluable assistance of Mr. Adolf G. Vogeler of the Western Druggist, of Mr. Albert E. Ebert and of Mr. Leo Eliel, to whom he acknowledges his obligations; also of Messrs. Leon Gibbes and W. H. Drury, two soda water experts of Chicago, as well as the special contributors enumerated on another page.

In the soda water drinks, all spirituous preparations have been omitted except in certain well-known standard articles and in the formulas received from special contributors.

THE EDITOR.

CHAPTER I.

HISTORICAL.

The present enormous and ever-increasing trade in carbonated beverages is the outcome of an attempt of early chemists to imitate famous medicinal springs naturally charged with what was originally known as "fixed air."

"Soda" water, as it is known now, however, is essentially an American drink of American origin, and is used almost exclusively in the United States.

Originally this water was nothing but a poor imitation of seltzer water, made by combining solutions of sodium bicarbonate and tartaric acid, the liquid being drank during effervescence. It was an easy step to make the drink more palatable by the addition of flavored syrups. In the syrup was dissolved the tartaric acid, the sodium bicarbonate being dissolved in water contained in a fountain. The water was forced out by air pressure through the old-time goose-neck apparatus. The fountain was kept cool by surrounding it with ice, the syrup bottles also being kept in ice. A radical improvement in this method of making soda water consisted in charging the water with carbonic acid gas, the charged water being flavored with syrups when drawn. This water was always more or less warm, owing to the imperfect apparatus, and the latter has been gradually improved.

The goose-neck apparatus was replaced by marble soda apparatuses similar to those seen at the present time. These apparatuses were all of the "counter" type. They had an ice-chamber which cooled the syrup contained in jars, the latter being provided with faucets. The charged water was contained in fountains under pressure. The water was drawn cold by having coils of piping in the apparatus connected with the fountain.

The "counter" apparatus has been replaced by the wall apparatus. Various improvements have been made in apparatus, so that there is now no excuse for serving anything except cold, delicious, healthful beverages.

Owing to its origin and on account of its presumed medicinal character, "soda" water has always been a portion of the stock of the pharmacist, and he has been compelled to keep pace with the improvement in apparatus. The improvement in the latter has consisted not only in modification, but also in enlargement, in greater capacity, so that now a very large number of beverages may be drawn from a soda apparatus.

Apparatus is made not only of marble, but also of onyx and tile, and not only is cold "soda" served, but, in proper season, hot "soda" also.

CHAPTER II.

GENERAL DIRECTIONS.

Making Carbonated Water.

The manufacture of carbonated or soda water—charging the fountains, as it is more commonly termed—is accomplished by filling fountains nearly full of water and passing into them carbonic acid gas, the latter being obtained by the use of liquid acid, or by generating it in a so-called generator from carbonates and sulphuric acid.

This generator consists essentially of a chamber for the acid, from which it may be allowed to flow to the carbonate; a chamber for holding the carbonate and generating the gas, and one or two chambers ("purifiers") for washing the gas.

The acid used is common sulphuric acid. The carbonate used may be either marble dust, whiting, or a mixture of the first with sodium bicarbonate. This carbonate is mixed with some water before the acid is allowed to flow down into it. The acid liquid should not be permitted to come down too rapidly, as the evolution of gas may become so great as to force some of the thick mixture of carbonate, water and acid over into the pipes. Indeed, the pressure may become so great as to burst the generator, with possibly fatal results to the operator if he be in the generating room, to say nothing of wrecking the building. Most generators are, however, now provided with safety valves, so that the excess of gas may be allowed to escape.

During the operation of charging, the operator should watch the gauge, to see that the pressure is always within the safe limit. Of course, if excess of gas is formed and the safety valve is opened, more than gas may escape through the latter. Some of the "charge" in the generator may be forced out through the same opening, and the operator should take due care of his person.

If the pressure becomes too high in the generator it may also force the water in the purifiers over into the fountains, and the "soda" water will then be contaminated with sulphuric acid, Of course, this substance should not be present in the water in the first place, because it has no business there, and secondly, because the oil of vitriol used always contains arsenic as an impurity,

Certain proportions of acid, water and carbonate have been found satisfactory for charging water, and these are given:

TO PRODUCE A PRESSURE OF 120 POUNDS.

Quantity of water.	Of sodium bicarbonate.	Of acid.
10 gallons	86 av.oz.	50 av.oz.
20 gallons	123 av.oz.	71 av.oz.
30 gallons	161 av.oz.	93 av.oz.
40 gallons	198 av.oz.	118 av.oz.
50 gallons	236 av.oz.	138 av.oz.

FOR A PRESSURE OF 135 POUNDS.

10 gallons	96 av.oz.	56 av.oz.
20 gallons	134 av.oz.	73 av.oz.
30 gallons	171 av.oz.	100 av.oz.
40 gallons	209 av.oz.	122 av.oz.
50 gallons	246 av.oz.	144 av.oz.

(A quart of acid weighs approximately 50 av.oz.)

Eighteen pounds of marble dust is about equal to 17 pounds of soda bicarbonate.

The amounts given above can be used for carbonating smaller quantities of water to a higher pressure, or proportionately larger amounts of soda (or marble dust), and acid can be used for carbonating the same amounts of water to a higher pressure.

The carbonate may cake on the sides of the generator, and this cake may not be easily dislodged. It is therefore advisable to avoid it. In the first place, the water should

be put into the generator and agitated while the carbonate is gradually being added. Then if it is not possible to proceed at once with the carbonation of water, some acid should be allowed to flow down into the generator and the mixture agitated; the gas formed permeates the mixture like yeast and assists in preventing caking.

When the gauge registers about 160 or 170 pounds, the generator should be connected with the fountain. The acid should be allowed to flow down gradually and the mixture agitated until the carbonate is exhausted, i. e., refuses to give up more gas, when the mixture may be drawn off from the generator and thrown away. During the carbonation of water, the gauge should show continuously a pressure of about 140 or 150 pounds.

As the gas is formed it passes through the water into the purifiers, which dissolve and thus retain the particles of sulphuric acid that are mechanically carried over with the gas from the generator. The gas is but slightly soluble and passes over into the fountain. The water in the purifiers will act more efficiently if it contains a small amount of sodium bicarbonate.

The gas is passed over into the water in the fountain until the pressure gauge indicates the requisite pressure.

Liquid carbonic acid—so-called "liquid gas"—apparatus is more frequently used at the present time than generators, and is much better adapted to the needs of most dispensers. Water can be carbonated much more quickly and easily; the process is more cleanly and is safer; the apparatus takes up very little room, and the product is just as good.

Whichever method of carbonation is employed, the fountain should be rocked during the passage of the gas, so as to agitate the water, thus insuring the complete and uniform saturation thereof.

Opinions differ greatly as to how much carbonated water should be charged. Some charge to only 120 or 130 pounds. This is insufficient; the pressure should never be less than 150 pounds. The soda water made with water charged only to 120 or 130 pounds will lack in pungency and will not hold foam. "Soda" made with water at 150 pounds will hold its foam nicely if the syrup is made properly, and the drink will have the desired pungency. Some claim to obtain even better results with water charged to 160, 170 or 180 pounds.

The amount of gas in carbonated water will depend on the temperature of the water. The colder the water the more gas it will contain at the same pressure. Some cool the water by pouring it into the fountain through a funnel containing cracked ice.

Some increase the sparkle of carbonated water by adding to each fountainful of water 2 fluidounces of alcohol or 1 ounce of sodium bicarbonate. Others add 1½ ounces of each to a fountainful of water. Soda water containing these ingredients cannot be used satisfactorily for making "solid" and egg drinks.

Discharging the Generator.

A great deal of trouble is usually experienced in discharging the exhausted material from the generator body, and with this difficulty of discharge of the contents there is liability to collapse of the lining. To discharge successfully the contents of the generator, it is necessary to have some pressure left in the generator, for the spent material coheres so firmly that gravity alone is not sufficient to force it through the discharge cock. At the same time the pressure should not be too high, as then the material will be discharged with such force as to splash over the operator and the walls and floor of the generating room.

A pressure of ten or fifteen pounds is usually sufficient properly to discharge the generator. Less than this may be sufficient. Of course the lowest pressure that will cause satisfactory discharge should be used.

If the pressure in the generator is too high, some of the gas may be pumped off, but since few average dispensers have a pump, the usual plan is to permit some of the gas to escape through the safety valve.

Sometimes the pressure in the generator is allowed to fall so low that the pressure of the gas remaining in the purifiers is greater

than that in the generator, with the result that the water of the purifiers is forced over into the generator. This does no particular harm excepting that more magma is discharged from the generator and that it is thinner and more liable to splash when discharged. Some operators endeavor to avoid this transferral of water by first drawing off the water in the purifiers. The pressure in the generator may then fall so low that the contents cannot be discharged and will cake on the sides of the generator. Then the material must be discharged by the tedious and difficult process of pushing it down with a stick, or, what in such case is better, by putting a liberal quantity of water in the generator, mixing the spent material with it by means of the agitator, and allowing the whole to flow out through the discharge cock, keeping the latter open if necessary with a wooden stick or other instrument which will not injure it. Another method of breaking up the cake is to add both water and acid and work the agitator back and forth until they work through the cake. The acid will form more gas with the carbonate which may be still unchanged, and this gas will assist in breaking up the cake.

Sometimes more carbonate is used in the generator than is sufficient to charge the water required, and the partially exhausted carbonate is allowed to remain in the generator until such time as more carbonated water is required. This carbonate will then settle out on the sides of the generator in a firm cake. The firmness depends on the amount of water in the generator. If but little water is present, the marble dust forms a very hard cake, which is subsequently broken up with the greatest difficulty, whereas if a large amount of water is used, the cake will be tolerably soft and easily broken up. Therefore, if the mixture must be allowed to stand, quite a large quantity of water should be added to the carbonate before allowing the acid to act upon it. In general, however, it is better to use too little material than too much.

Working the agitato occasionally during the time the material is in the generator will assist in preventing caking.

There is always less danger of hard caking if the carbonate contain some sodium bicarbonate, as the latter forms a soluble product with sulphuric acid, the product of marble with the acid being the insoluble calcium sulphate.

What to do with the spent material is a good deal of a problem. Sometimes it may be dumped into a vacant lot close by. In large cities it is more frequently emptied into the sewer. Care should be taken to avoid clogging up the latter by putting in but a small portion of the material at a time and adding to it a large amount of water.

As has been previously stated, not infrequently the water from the purifiers is forced over into the generator. This is no disadvantage to the connecting pipes, as it serves to clean the latter. This cleansing may, however, not be sufficient, and it is best to pass clear water through these pipes each time after making carbonated water.

Defective Generators.

Generators may become defective from corrosion of the lining by the action of the acid upon it. The lining may also collapse. In either case, the generator must be sent to the factory for repairs.

If the acid is poured carelessly, some of it may be dropped on the bungs of the generator; it will then corrode the brass couplings and may cause a leak in this manner. Sometimes marble dust contains nails or fragments of glass, and when these are scraped up and down the lining, the latter may become severely injured.

There is, of course, more or less danger in dealing with generators. There is danger from collapsed or corroded lining; also from allowing the acid to come down into the carbonate chamber, causing a violent evolution of gas, which may force some of the magma over into the pipes, or it may cause an explosion as already stated. Inasmuch as sodium bicarbonate evolves more gas and evolves it more rapidly than either marble dust or whiting, it is more dangerous to use than either of the latter.

There is never any danger of a collapsed lining of a generator if the precaution is

taken always to have the pressure within the generator at least as great as the atmospheric pressure upon the outside. In the early stages of carbonation of the water, the latter may absorb the gas so rapidly as to decrease the pressure in the generator. Therefore the acid should be allowed to flow down upon the carbonate with sufficient rapidity, but, as already pointed out, this flow may also be too great.

Handling of Fountains.

The fountains used are the 5 and 10 gallon sizes, the latter having, however, almost entirely supplanted the smaller size. These fountains are made of copper or steel, the latter being now generally preferred.

The linings of these fountains may become worn, or loosened, in which case there is liable to be contamination of the soda water with copper, which will manifest itself by a metallic taste, and may cause vomiting, or even make the drinker quite ill. Contamination with copper may also arise from defective joints at the fountain or in the apparatus. If any of the parts contain copper, the soda water should be frequently tested with ammonia water or potassium ferrocyanide, the former producing a deep blue color when added in excess, the latter a brown precipitate. However, there is at present but little fear of cupric contamination, as the danger of the latter is now well recognized, and copper connections and linings are accordingly avoided. Cupric contamination cannot occur in steel fountains.

All fountains must be handled with care, as the lining may become loosened by violent usage. This is especially true when the fountains are being filled. As the filled fountains weigh about 150 pounds, there is temptation to handle them roughly—rolling down stairways for example. The injury to the fountain may not be immediate, but injury there will be. A fountain with a collapsed lining is a dangerous thing when under the pressure of charged water.

Steel fountains require occasional painting as a means of protection. Copper fountains require no protective covering, but may be scoured and cleaned occasionally. Steel is, however, very susceptible to oxidation, especially in a moist atmosphere, and, therefore, steel fountains should have such a protective covering. No definite rule can be laid down for the renewal of the painting, but no portion of the fountain should be allowed to become bare.

In selecting fountains get only those which have side-opening instead of top-opening cocks, as the latter are more easily broken, and are in the way if it becomes desirable to put the fountains under the counter or under the apparatus.

Multiple or Duplex Cocks.

By having the fountains connected with the apparatus by means of a multiple or duplex cock, one fountain may be disconnected from the "soda" apparatus and another one attached without leaving the counter. The mere turning of a stop cock will accomplish the desired result. Subsequently, when the attendant has time, he can disconnect the empty fountain entirely and attach to the cock another full fountain.

Leaking of Fountains.

Leaking of fountains may be an escape of water or a loss of gas alone. A leakage of water is easily detected, as it is both visible and audible. When the leakage is of gas alone, and especially if but small, it may not be known until it is attached to the tubing of the apparatus, when it will be discovered that there is little or no pressure in the fountain and no soda water can be drawn. The leak may be discovered by means of a lighted candle, which should be followed around the fountain cock, close to the connections. If there is escape of gas, it will cause the light to flicker. This slow loss of gas may be due to insufficient tightening of the fountain top. If further tightening does not stop the escape of gas, it may be due to defective washers, and if new washers fail to stop the escape, the fountain must be sent out for repairs.

It may also be possible that this leakage arises from a small opening somewhere in the piping, and the whole piping should be examined before condemning the fountain.

Sometimes the loss of gas due to a small opening is not manifest as a filled fountain is

attached to the pipes; on the contrary, the apparatus will act satisfactorily enough for a time and then will refuse to work, the gas having spent itself through the opening.

Care should be taken not to employ undue force in screwing on the fountain top. With a long-handled wrench and a mallet, it becomes a tolerably easy matter to twist off the cock, or, at any rate, to cause serious damage.

If the leak is in the fountain shell, it indicates that the lining is defective, and that the fountain must therefore be sent to the factory for repairs. If the fountain is new, it may be that the leakage is due to escape of water from the space between the shell and lining, the water having been introduced into this chamber in testing the fountain at the factory. As pressure is applied in the fountain, this water will be forced out through any openings that may exist in the fountain shell. This escape of water is but temporary, lasting only until all is expelled.

Sometimes there is a failure to draw water from the fountains, even immediately after charging, and hence it cannot then be due to leaks from the fountain. In such cases, the tubing and draught-arm should be examined for impacted dirt and the connections examined for a misplaced washer, either of which would be sufficient to prevent drawing of water at the draught-arm.

In some instances water may be drawn for a time, and then there will be only an escape of gas. This is usually due to a hole in the tubes within the fountain. As long as the water is above the level of the hole, "soda" may be drawn, but when the water is below this level, gas only will be discharged. If such an opening is small, it may be closed up by gently tapping with a hammer or by placing the point of a nail to the opening and striking the head of the latter.

If it is desired to examine the interior of a fountain the end of a long wire may be wound around a lighted candle and the whole lowered into the fountain. If there is sufficient carbonic acid gas in the fountain to extinguish the light, the fountain should be filled with water and then emptied.

The interior of a generator may be examined in the same manner.

In charging a fountain, the operator may be startled by loud sounds proceeding from the interior of the fountain. These are due to a bent fountain tube which has become straightened by the pressure of the gas.

Defective Fountains.

Fountains may become defective from causes other than those already enumerated. Frequently the defect is due to collapsed lining; this defect may occur in other apparatus besides fountains, for example, in the generator. Collapsed lining can be remedied only by the manufacturer of fountains.

Apparatus, Large or Small, Single or Double?

In purchasing a new soda apparatus, the questions naturally arise, What shall be its size and what shall be its construction?

The size should depend upon the business that is done or is likely to be done. In most instances there is no certainty of a very large business, but there is a certainty of its gradual increase, and therefore the best plan is to have an apparatus of about medium size. Such an apparatus will hold all the different kinds of syrups that are in common use, will have two draught-arms for drawing soda water, and will have several draught-arms for the ordinary mineral waters.

A better plan is to have a double apparatus. While the trade is small, as when the apparatus is first put in and during the cooler seasons of the year, one side of the apparatus may be used, and then as the demand for drinks increases the other side may be used. By having a double apparatus a great deal of ice may be saved.

The interior construction of apparatus is of less concern than the exterior appearance, as all manufacturers now make apparatuses which are satisfactory in practically every respect.

The details in exterior structure will vary according to the ideas of the purchaser. If the apparatus is double, there may be a large mirror between the two sections. If the store is provided with incandescent lights, a unique effect is produced by having a little grotto at the bottom of this central mirror,

the dome of which is covered with vari-colored glass, an incandescent light being situated at the back of the grotto so as to illuminate the latter at night.

Surmounting the entire apparatus a good effect is produced by a nice canopy supported by pedestals. The coloring of the sides of the mirror, the canopy and its pedestals should harmonize with the fixtures of the store.

In no case should the apparatus be too expensive, as it can easily absorb the profit of several years' "soda" business. Never, however, should there be anything cheap about it in design or material. Better a severely simple and plain exterior with the beauty of honesty and good taste than a pretentious affair without these qualities. The more quiet and refined your taste, the more simple may be your apparatus, but the more attractive must be the service. Most people believe that a good drink perfectly served is rather to be chosen than great riches in the fountain.

Keep Apparatus Clean and Bright.

Every portion of the soda apparatus should be kept perfectly clean and bright. All the silvered portions should be cleansed every morning with a mixture of whiting, ammonia and water, and then polished with a piece of flannel. The mirrors should also be cleansed as often as may be necessary, at least twice a week, preferably every other day or even every day.

Every utensil should also be cleansed and polished every morning. The silver spoons, holders, etc., should be cleansed with whiting and then polished every morning. The glassware should be cleansed at the same time. The marble counter surface of the apparatus should also be washed every morning.

Occasionally all the marble should be washed with castile soap and water and then wiped off with kerosene. The latter should, however, not be used on white marble. Instead of cleansing the marble with castile soap and water, the following may be used:

Sodium carbonate	av. oz. 2
Chlorinated lime	av. oz. 1
Water	fl. oz. 14

Mix and apply (magma and liquid) with a cloth, rubbing until clean and dry.

The marble may be polished by rubbing either with powdered tripoli, followed by putty powder, or with a mixture of chalk, soft soap and rouge, applied on felt or flannel, afterwards polishing off with a clean piece of felt. These two methods are employed by marble dealers for polishing their ware.

The soda water and mineral water glass holders, the chocolate urn, etc., should also be cleansed and polished like the silverware of the apparatus.

It has been suggested to avoid tarnishing the silverware of the fountain by painting it, after cleansing, with collodion, highly diluted with alcohol. When the liquid evaporates, the collodion will be left on the metal in the form of a very thin transparent film.

If the silverware is badly tarnished, it may be cleansed with solution of sodium hyposulphite.

Occasionally also the woodwork should be wiped clean with a damp sponge, then dried off and oiled with paraffin oil.

About twice a month the ice-chamber of the apparatus should be washed out by pouring in several pails of water or by connecting a hose with the hydrant and turning on the faucet. The water washes out the solid impurities which remained from the ice. Those impurities which are too large to be washed through the pipe, will collect about the opening of the latter, and may be gathered up with the hand.

Taking Grease Out of Marble.

One method is to apply a small pile of whiting or fuller's earth saturated with benzine or gasoline, and allow to stand for some time. More benzine or gasoline may be added to the pile as the latter dries, not using more than enough, however, to saturate the pile.

Another method which is recommended is to apply a mixture consisting of one part pumice stone, one of chalk and two of washing soda, finely powdered and made into a paste with water. Rub this well over the

marble and finally wash off with soap and water.

Ice-Cream Cabinets.

A great deal of the objection to ice cream has come from the fact that tubs in which ice-cream cans are shipped are always leaky and are responsible for most of the "muss" on the floor at the apparatus, and, besides, the exteriors of the tubs are always wet and dirty, and thus quickly soil the clothing of the attendants. All this trouble and inconvenience may be avoided by the use of an ice-cream cabinet. These are now too well known to require much description. They may be made of any size, such size being selected as is best adapted to the counter space and will hold sufficient cream for the amount of business done. If a high cabinet can be used and the business done is large, a cabinet to hold a 5-gallon can may be used. If the business done is smaller, a cabinet to hold a 3-gallon, 2-gallon, or 1-gallon can may be used. If the cabinet must be low, it may be made to hold two cans, i.e., two 3-gallon, two 2-gallon, or two 1-gallon cans.

The ice-cream cabinet can be kept clean and presents a neat appearance, besides keeping the ice cream better. A waste-pipe at the cabinet connected with the waste-pipe of the sink will carry off all the water from the melting ice, and there will be no more wet floors from a dirty, leaky tub.

When the ice cream is replenished, the new lot is poured into the can, and, similarly, when icing it, the crushed ice and salt are poured into the cabinet over the can and packed down in the usual manner.

Besides the advantages enumerated above, there are others in the use of a cabinet. Ice cream can thus be kept in good condition over night, which can never be done in a tub, and in sufficiently liberal supply for all demands. If an unexpected rush occurs, there need be no loss of patronage. The ice cream can be kept so as to be always of the correct consistency, not too hard and not too soft. There is a saving of ice, time and trouble.

Owing to the fact that any preparation of milk may form a violent poison, the ice cream cans should be thoroughly cleansed at frequent intervals. An excellent plan is to have a wire cage or screen about the can so that it may be slipped out when desired. By having an extra can, the cream may be put into one while the other is being cleaned.

There is this to make a special note of, that in ice-cream tubs, the ice cream becomes soft over night, frequently it melts, and if it is kept for several days and is melted and re-iced several times, there is grave danger of the formation of the poison alluded to.

Air in Soda Water.

Air may be introduced into soda water by the use of ordinary water, by means of fountains containing air, and by failing to discharge all the air from the generator. The presence of air in water can be avoided by boiling, but this process is too tedious for the large amounts of water required for soda purposes. A better plan is to pass some gas into the water in the fountain, and then to re-open the fountain, when the air, which will have mostly risen to the top of the fountain, will escape.

The second cause of air in soda water, viz., air in the fountain, is operative only when the fountain is entirely new, for after it has been used once there is always sufficient residual gas in the fountain to prevent the access of air except through the medium of the water. It is the latter which will cause the accumulation of so much air in the water that the latter can be fully carbonated. Water insufficiently charged for this reason may show the proper amount of pressure at the pressure gauge, but the water will be lacking in pungency and consequently will taste flat. The presence of air may become dangerous, because air is condensed in the water, whereas the carbonic acid gas is condensed with the greatest ease.

The presence of air in soda water will also cause sputtering, for the air, having less affinity for the water than for the carbonic acid gas, will quickly leave the water when the latter is drawn from the draught-arm, and in doing so, will hasten the dissipation of the gas.

Another effect produced by the presence of air is to cause soda and mineral waters to be milky in appearance, provided they contain calcium or magnesium compounds, which is highly undesirable.

To prevent the entrance of air into fountains from the generator, the gas formed should be allowed to pass through the sev eral parts of the generator for a few minutes before carbonating the water.

To determine if air is present in soda water, discharge the fountain (entirely or nearly so) and allow the latter to stand for some time, say about 24 hours, when the gas, being heavier than air, will settle mostly to the lower portion of the fountain, and the air will rise to the upper portion. Then, upon opening the fountain and lowering a lighted candle into it, one may determine about how much air is present.

If soda water sputters when drawn, because of the presence of air, the latter may be allowed to escape, partially at least, by opening the check valve now always attached to the exterior of apparatuses and connected with the coolers.

Drawing of Soda.

There is but one way to draw ice-cream soda, and that way, it is safe to say, is but seldom followed. In the first place, put about 1½ to 2 fluidounces of syrup into the glass, turn in the fine stream of carbonated water, moving the glass about quickly so that the stream may play upon every portion of the syrup in the glass; then turn in the coarse stream until the glass is more than half full, then turn in the fine stream for a moment so as to mix the contents of the glass again; now drop in the ice cream, and fill up the glass with the fine stream, turning in enough of the latter so that the layer of foam rises nicely above the glass. As usually drawn—syrup first, then ice cream, and finally soda—the product is a layered mixture of thick syrup on the bottom, carbonated water above this, the whole covered with a meager amount of foam, and the ice cream floating about just beneath the surface of the foam. Drawn as above indicated, the soda is an intimate mixture of charged water and syrup, containing the ice cream indifferently suspended, the whole nicely topped with foam.

It must not, however, be surmised that served soda should contain a good deal of foam. Such is not the case; a certain amount of foam imparts an agreeable relish to the drink, but too much gives a mixture lacking body—it is too "windy."

It requires practice, care, and good judgment to draw soda just right.

This point should be strictly observed in drawing soda or any foaming drink—always hold the glass so that the opening of the draught-arm is below the surface of the glass. In this way there is no chance for escape of gas, and the beverage will have its proper amount of foam.

If, after exercising due care, it is found impossible to draw the soda just right, then the fault must be with the materials. It may be that there is an excess of "foam" in the syrup, or there may be a deficiency—acid syrups require more than others—or that another kind of "foam" should be selected; the syrup may be too thin; the carbonated water may not be sufficiently impregnated with gas, or it and the syrup are not cold enough—if too warm, the mixture will quickly lose its gas and hence its foam; or, finally, it may be the fault of the ice cream.

When soda without ice cream is served, the syrup should be drawn into the glass, then turn on the fine stream of soda, quickly moving the glass about as before; turn in the coarse stream until the glass is nearly full, and then again turn in the fine stream to mix the contents of the glass and top nicely with foam.

As stated, the soda as served should have sufficient foam. An excess of foam proves a source of disappointment to the drinker, especially on a hot day, when he is anxious for a "long" drink. Indeed it is lately becoming more and more the fashion, especially among men, to drink soda without foam, i. e., "solid," "flat" or "still."

The amount of syrup used must vary according to circumstances; ice-cream soda requires less than soda without ice cream, and more of a thin syrup is required than of a thicker or denser syrup. It must also vary

according to the taste of customers, some desiring quite a sweet beverage, others one containing comparatively little syrup. In general it may be said that the drink should not be so sweet as to leave a stinging sensation in the throat, but sweet enough to disguise fully the taste of the carbonic acid gas.

The serving of mead, ginger ale, lemonades, phosphates, etc., will be described in the chapter treating of those beverages.

In serving drinks "solid" (or "flat" or "still"), such as "phosphates," the carbonated water should be drawn into the glass by means of the coarse stream, the syrup should then be added, and the mixture stirred with a spoon. If the process be reversed, i. e., carbonated water added to syrup, effervescence may be so copious as to overflow the glass. In drawing the carbonated water into the glass, the latter should be held at a short distance from the draught-arm, so that some of the gas may be lost from the water.

If a beverage is made by agitation in a closed vessel, as in making egg drinks in an egg-shaker, the egg, etc., should not be agitated with carbonated water, but plain water with cracked or shaved ice should be substituted for the latter.

Temperature of Soda Water.

Soda water and other beverages drawn from the fountain should always be quite cold. The temperature of these drinks when drawn should, even at busy times, be never lower than 45 deg. F.—ice-cream soda will of course be of a lower temperature. If the temperature be higher than this, there is an insufficiency of ice or there is a defect in the construction of the apparatus. The former is remedied easily enough, but the latter is not. Every apparatus should have sufficient block tin piping, as in this way there will always be a large amount of carbonated water in juxtaposition to the ice, and a cool beverage can always be drawn. If the apparatus is one of the older styles that will not yield a cool drink, the only remedy is a new apparatus.

Sometimes a soda apparatus consumes a great deal of ice, more than seems necessary. This may be due to the fact that the cover of the ice chamber does not fit snugly. It may be due to improper location of the apparatus; the fewer the currents of air that reach the apparatus the longer the ice will last, and therefore the fountain should be located, if possible, where but comparatively few air currents will reach it.

The apparatus, being almost always near the front of the store by the window, the rapid melting of ice may be due to the action of the sun's rays in the morning or in the afternoon. Therefore the awning should be lowered as soon as the sun begins to warm the front of the store, and should not be raised until the sun has disappeared.

A covering of newspapers or of cloths like burlap or, better yet, a blanket or piece of carpet, will save the ice a great deal. If the paper or cloth can be kept dry, or tolerably dry, it will form a better protection than when wet, as air is a poorer conductor of heat than is water.

In putting ice into the apparatus, the first portion should be reduced quite fine and the remainder of the ice put in in tolerably large pieces.

Shaved Ice.

Some dealers put shaved ice into the soda water when served. It is a tedious process to grind the ice on a shaver, and makes the process of serving drinks much slower; ice is usually impure, and the beverage is really not fit to drink; and lastly, the beverage quickly loses its gas and tastes flat.

The Glasses.

Two sizes of glasses are in use, the 12-ounce for soda with and without ice cream, and the 8-ounce for mineral waters, phosphates, etc.

These glasses should always be of the best quality of thin glass. Light beverages drank from dainty glasses have a better flavor. Champagne is, for this reason, always served in thin glasses. The usual thin glass has a flaring top; this form is not desirable, for when the glass is raised to the mouth, the liquid, as it reaches the curve in the glass, spreads out, and the drinker is liable to discomfort or damage from an overflow.

Washing of Glasses.

Glasses used for serving soda should, of course, be scrupulously clean. The golden rule should here be strictly observed. Simply rinsing glasses will not always cleanse, especially when ice cream is served with the soda. In fact, the glasses should first be well washed in running water, then placed to one side until drained and partially dried, and finally rubbed with a clean, dry towel until well polished.

Sometimes it has been advised to use a tumbler washer, which revolves and washes the glasses in sight of patrons. This apparatus is of particular value in cases where the glasses have been used for serving soda water or mineral water only, as the glasses are easily cleansed with cold water. When ice cream has been served it is sometimes necessary to expedite the work of the tumbler washer by partially cleansing the glasses at the sink beneath the counter and then rinsing on the washer.

A very good plan in use in some stores is to have a large supply of glasses, say about 6 dozen, and have all in use. During a "rush," the glasses may be placed under the counter, but as soon as it is over, they should be carried to a sink at the rear of the store, where they may be washed and polished at leisure.

This plan, however, also fails to meet the requirements of a large business. Where the volume of business is very great, the conveniences should be of the very best, so that the glasses can be washed quickly and satisfactorily.

This maxim should never be forgotten: have a clean glass always ready; never make a customer wait.

The Sink.

This portion of the soda water outfit is usually too much neglected. A rule which too often holds true, is that a store with a very fine apparatus has a very poor sink. The sink should always be long—long enough for any demand that may arise. It should be wider by a few inches than the counter slab, and should be of proper height, not too high nor too low. If too high—too near the slab—glasses taken out or put in during a "rush," may be knocked against the edge of the slab and be broken. If too low, it is inconvenient for the attendant to reach down. The top should be covered with corrugated copper and incline towards the sink-box.

It is advisable to have two sink-boxes, one for chipped ice, the other for washing glasses. The former should be divided off so as to hold a few bottles of syrup, etc., which are not demanded often enough to keep in one of the syrup jars. On the bottom of this should be a perforated metal rack about one-half an inch high, so that the water from the ice will run off easily and dirt will be carried off readily. The ice should be kept covered with a clean towel.

The other sink-box should have a continuous flow of water, so the glasses may always be washed quickly. By having a dam in the sink-box about two-thirds the height of the latter (it may be constructed by inserting a piece of lead piping into the waste-pipe, and a piece of rubber tubing attached to the hydrant so as to avoid the splashing noise of the running water), a continuous flow of water can be easily secured. A brush washer in the sink will assist marvelously in the rapid cleansing of glasses, and the attendant can keep his hands quite dry.

The waste-pipes of the sink-boxes should always be quite large, about 3 or 4 inches in diameter, with a trap beneath the sink. It is also of great advantage to have wide waste-pipes connected with the ice-chamber of the apparatus. These wide pipes will easily carry off the slime of the ice cream and the dirt always present in ice, whereas small pipes are continually causing trouble. If the pipes are small and they become clogged, the cake may be dislodged by pouring strong sulphuric acid into the pipe, being careful to avoid contact of the acid with the metal of the sink-box, and if this fails, then wash out the acid as well as possible and pour in some very concentrated lye solution.

Beneath the counter should be a small box for used lemons, egg shells, corks, papers and other refuse. This should be emptied every morning.

Special Drinks.

If you have the knack of inventing new and pleasing combinations, so-called "special drinks," let the fact be known as much as possible. One good method of advertising a new drink is to allow good soda customers to sample it. Another is to advertise it by neatly made signs suspended above the apparatus and also hung in the windows.

These special drinks should not be more expensive to the dispenser than ordinary kinds. The objection to most fancy drinks is their expensiveness, and, in general, it may be stated that such drinks should be discouraged as much as possible, unless a price sufficiently remunerative can be obtained.

If profitable specialties can be devised, it should be done by all means, as they help to attract people to your store and make them believe you are up to the times. Good soda water alone is not always sufficient as a trade-winner; people must be induced to come to your particular store for a particular reason.

In these days when the bicycle has become so common, one of the drinks should have a name specially attractive to cyclists, e.g., Cyclade.

Always serve fancy or special drinks in fancy glasses, as they will then taste better to the public.

Medicinal Drinks.

Every pharmacist should have at the apparatus within easy reach all the various medicinal agents commonly asked for at the fountain. An effervescent salt for headache is probably oftenest demanded; sodium bicarbonate is also frequently called for. Both of these, as well as most other solid substances, should be kept in wide-mouth bottles having a well-fitting cork; into the latter should be firmly fixed a spoon, so as to avoid the necessity of inserting a soda spoon which may be damp, and thus cause the solid to cake.

A few points on drinks to recommend for certain conditions will not be amiss here. A person who has been imbibing quite freely and needs a sobering drink should have a glass of "plain" soda or mineral water well charged with gas, the drink being reinforced with a little aromatic spirit of ammonia, a bromide, tincture of valerian, or elixir of ammonium valerianate. A dyspeptic should be treated according to the nature of his complaint. An acid dyspepsia, such as is accompanied by sour stomach, requires vichy water reinforced, if necessary, by sodium bicarbonate. Alkaline dyspepsia may be relieved by a phosphate. At times, pepsin, elixir or essence of pepsin, or other medicament may be of value.

Nervous persons, brain workers, and persons who have been bicycling will no doubt be benefited by a drink containing coca, kola, calisaya, or beef, iron and wine. As an appetizer may be recommended soda with calisaya or a bitters. To disguise a breath tainted with onions, garlic, cheese, or liquors, a glass of plain soda made strong with coffee will probably prove effectual.

Soda is an excellent medium for taking many medicines. For example, the best method of administering castor oil is to draw a glass of sarsaparilla soda in the usual manner and pour in the requisite amount of oil. The taste of the oil will not be perceptible, and the glass can be washed clean by simply rinsing in water.

Lists of Beverages.

An excellent plan is to have a list of drinks at the counter, so as to make it unnecessary for the attendant to repeat the names of the beverages on hand. A convenient list is a series of connected glass plates, each being inscribed with the name of one of the drinks. A handsome printed card is also very good. Other devices or plans may suggest themselves. The price of each drink should always be stated.

If the soda business done is very small, the number of drinks served is small, but the following will always be required: Vanilla, chocolate, lemon, orange, pineapple, strawberry, raspberry, and sarsaparilla syrups, and vichy water.

Serving Intoxicants.

Every year brings its quota of tales of soda water "winks," which are published in the daily press, but it is gratifying to know that very few pharmacists stoop to the contemptible habit of serving intoxicating drinks

at the counter. The serving of liquors belongs to the saloon, and should not be countenanced outside of saloons. For this reason, formulas for soda syrups containing wines or liquors are not given in this work, except in a few instances where the formula is one so well established that it could not be omitted.

The Attendant.

The attendant at the soda fountain should preferably be one comparatively young in years and prepossessing in appearance. He should be perfectly cleanly in his person and his habits; his collar, shirt, and coat should be white and spotless, and his hair should always be nicely combed. He should never perform any portion of his toilet, such as combing his hair, in front of the apparatus. He should have tact, plenty of good nature, and be attentive and obliging. He should be equally pleasant to the child, the old man or woman, and the finely dressed young lady. He should not feel slighted at the "uppishness" of the would-be society young man or the peevishness of the crank. He should be able, without appearing impertinent, shrewdly to suggest this, that or another drink to a fretful or puzzled inquirer. He should serve the drinks without delay. He should never attempt familiarities with his patrons, but should nevertheless be always friendly. In serving drinks, he should not allow his fingers to come near the rim of the glass. He should never fill glasses so full that patrons will spill the drink in picking up the glass. He should remove glasses from the counter as quickly as possible; in case of a "rush," he should not allow soiled glasses to stand on the counter until he has served the drink, but should remove them while he is waiting for the order. He should keep the counter perfectly clean, wiping it off as soon as wet, and never allowing it to become sticky; nothing is more disgusting to a refined patron than to touch a soiled and sticky counter. The attendant should be equally scrupulous about keeping every other portion of the apparatus perfectly clean and bright. He should never display soiled towels or dirty sponges before customers.

The attendant should never stand watching the patrons drinking. If he has nothing of importance to do, he should busy himself with some trivial matter until the customer starts to go away, when he should remove the glass and clean the slab.

In serving a party, it is important that they be served so that all will receive their drinks at about the same time. If the party is too large, then serve the ice cream sodas first. In general, it may also be stated that the ladies of the party should receive their drinks first.

The attendant should study each customer's desire and endeavor to remember the particular way in which each likes his drinks mixed and served. From the fact that a capable attendant soon learns his patron's peculiarities, one wanting a sweet drink, another one with very little sweet, another a "solid" drink, etc., it is not advisable for the proprietor to change his attendant excepting for ample cause.

Napkins.

Where there is a nice family trade, the desirability of napkins is so great as almost to amount to a necessity. They may be of cloth, small and dainty—it costs but very little to have them washed—or they may be of paper, to be thrown away after use. They furnish an additional temptation to patronage, preventing soiling of ladies' gowns, and adding "tone" to the establishment.

Chairs and Benches.

Where trade is of the transient kind, and comes and goes quickly, it is not advisable to have chairs or benches at the fountain. In family neighborhoods, on the other hand, people like to linger and take their ease, and here there should be sufficient seating capacity. A good plan is to have some nice, light stools at the counter, and, in close proximity at convenient points, some nice benches. It is the customers who are inclined to linger just a little who may cast their eyes about and observe other things to purchase.

Flowers, Plants and Statuettes.

Whenever possible have a bunch of flowers at the fountain; in the summer, a fresh

bunch may be obtained every morning They should be displayed in a pretty vase, not in a graduate or a wide-mouth bottle.

Oftentimes the polite soda attendant may gratify and immensely please a customer by the proffer of a carnation, a hyacinth or a rose. He should never neglect to wear one himself.

Plants, such as ferns, potted palms, rubber plants, etc., should be secured and placed about the apparatus. The sight, as well as the palate, shall be pleased, and thus the beverage made to appear more delicious. The plants assist in imparting a sense of refinement and fragrance to the establishment.

The apparatus may frequently also be ornamented to advantage by several well-chosen statuettes.

Keep the Store Cool.

Study to make the fountain surroundings cool, attractive and restful. Keep them cool and have them look cool. The cool air may be preferred even to the cold drink, especially when the price of the latter pays for both. The heat is liable to be greatest when the sun is shining in the front windows, and during the evening when the lights furnish the excessive heat. The sun's rays may be avoided by lowering the awning, while the overhead fans, run by water power or electricity, or the counter fans run by electricity, will always cause a grateful circulation of air. All windows and transoms should be kept constantly open during the hot weather.

Keeping the Floor Dry.

Every possible effort should be made to keep the floor about the apparatus dry. This may be accomplished by observing the injunction against the over-filling of glasses; the ice cream should be kept in cabinets or else the tubs should be set in metal dishes, which may be emptied from time to time; no water should be splashed in washing the soiled glasses.

A dry floor prevents odors, in a measure serves to keep away insects from the fountain, and saves the health of the attendant.

A good plan for preserving a dry floor is to have it covered with lead, which should reach entirely under the counter and a short distance under the stand upon which the apparatus rests. The lead floor should incline toward one end or one side toward an opening connecting with the waste-pipes of the building. Such a floor will prevent water from soaking through the floor and flooding the basement.

If desired, a piece of linoleum can be laid on the lead floor. This will make it easier for the feet of the attendant. Any liquid spilled on this can be quickly wiped up with a sponge, which should always be in a convenient place.

Cleansing Sponges.

Sponges which have become soiled at the counter so as to be unfit for further use, may be cleansed in this wise:

First wash the sponge well in water containing a small amount of lye, or potassium or sodium carbonate; rinse out, soak for a few minutes in a weak solution of potassium permanganate, rinse thoroughly in clear water, and then soak in a strong solution of salt, to which a few grains of iodine have been added. The sponges may be allowed to remain in the salt solution for a day, and when rinsed out with fresh water will be in as near their original condition as possible. Should the stain caused by the potassium permanganate be objectionable, the sponge may be decolorized by putting it in a solution of sodium hyposulphite. Both this and the potassium permanganate should be used in weak solution, as they have a tendency to injure the fibers. The salt and iodine both appear to "freshen" up the sponges in some manner. If the sponges be washed occasionally in weak alkali water, it will be unnecessary to make use of the whole process outlined above.

Flies and Roaches.

The greatest nuisances about the soda counter are flies and roaches. The former may be avoided by having well-fitting screens on the doors and all the windows, the door screens being provided with good springs. The counter should always be kept perfectly clean and the soiled glasses should not be allowed to stand about. The syrups should not be permitted to drip from the syrup

tanks. If they do, the taps do not fit well and should be repaired.

Keeping the counter slab clean and dry and keeping all glasses clean, will assist in preventing the visitation of roaches. Moisture attfacts these insects, and, therefore, slopping over of the glasses and of the sink, etc., should be avoided. If, however, all due precautions do not prevent the appearance of roaches, the insects should be destroyed as rapidly as possible by the diligent use of some good roach powder. This should be blown about, and especially into all the crevices, every night, the powder and dead insects being removed at the earliest possible moment in the morning.

Oil of sassafras is said to keep flies away from the soda counter, but it is not advisable to use an odorous substance at this particular portion of the store. If used, it should be rubbed on the apparatus and on the counter slab.

Candies.

An excellent side-line for druggists and other dispensers (we do not now refer, of course, to confectioners) to have in proximity to the soda apparatus, one which is wholly in harmony with the soda business, is candies. These should be displayed so that soda patrons may readily see them. Many gentlemen accompanied by ladies, and frequently ladies alone, would stop to purchase the confections.

The line of candies need not be very large. Only such as are most frequently called for, chocolate creams, butterscotch, etc., will suffice. These may be kept in suitable glass jars. Indeed many drug stores now carry, with gratifying profit, a full assortment of all the latest creations in fine confectionery.

Soda Tickets.

Some dispensers have adopted the plan of selling soda tickets similar to the meal tickets of restaurants. If ice-cream soda water is sold for 10 cents, a 50-cent ticket may be made good for six glasses; if for 8 cents, it may be good for seven glasses. When the ice-cream soda is sold for 5 cents, the margin of profit is so small that not more than ten glasses of soda water can be sold for 50 cents. The inducement to purchase soda tickets in this case must be something outside of the soda department, such as a small bottle of perfume. Other things will suggest themselves.

The use of such tickets will perceptibly increase the amount of business done. Holders are apt to patronize the store more than they would otherwise. They are likely to loan them to friends or to allow children to use them when they would not otherwise feel thus generous.

General Advice.

The following advice is of importance, but could not be classed under any of the preceding headings:

Examine the syrup jars every morning and see if any require filling. The fountains should also be examined to see if there is a plentiful supply of carbonated water on hand. A fresh supply of ice cream should be made every morning.

A fountain spray may remind passers-by of your fountain and make them feel thirsty.

If cream is used, it should be obtained fresh every morning. During the day it should be kept in a covered vessel on ice.

Have the exterior of the apparatus as neat as possible; it indicates that the interior is receiving proper attention.

Make some sort of nice, tasty display at the apparatus if possible. For example, a large number of cleaned and polished glasses piled up on the counter, with several incandescent bulbs distributed through the pile, will make a very fine, effective and attractive display.

Have a bicycle stand in front of your store so that cyclists will be induced to dismount and enter your store for a thirst-quencher.

By no means have papers and magazines, as this reminds one too much of the ice-cream parlor and the saloon.

While the syrups should not be too thin, they should also not be too thick, as then they do not mix well with the soda water.

Avoid giving out wet, dirty or sticky checks.

If the patron hints that his "soda" is not exactly right, do not allow him to drink it

but give him another one of another kind. Most soda customers understand that syrups may become spoiled.

If a customer claims he received a drink he did not order, do not argue with him, even if you did give him what he ordered, but give him what he now asks for.

If patrons break glasses, do not ask or accept pay for them. Be pleasant in the matter and tell them your policy is to allow for accidents.

Always have a full stock of everything required at the fountain.

Do not remove any glasses while any of a party are still drinking, except in urgent cases, and when doing so the attendant should excuse himself.

Do not handle fruit with the fingers, but use a small silver fork instead.

Utensils Required.

The utensils usually required at the counter, in addition to the two kinds of glasses, holders for each, and ice cream spoons, are about as follows: Spoon-holder, sugar bowl, chocolate pitcher, crushed-fruit jars and ladles for the same, a spoon or ladle for the ice cream, lemon squeezer, knife for cutting lemons, egg-shaker, strainer for egg drinks, acid phosphate bottle, corkscrew, brush for cleansing glasses (unless there is a brush in the sink-box), egg bowl, lemon bowl, ice shaver, ice pick, ice tongs, ice crusher (for breaking ice for freezing the ice cream), and a strong box with a heavy lead lining (to hold ice during crushing).

All the silverware used about the counter, such as the holders for the glasses, chocolate pitcher, the spoons, the spoon-holder, etc., should be perfectly smooth, so that they can be easily and quickly polished. If there are any indentations, the latter will retain the dirt, and careless employes will almost invariably fail to remove the whiting or other polishing material. The crushed-fruit jars should have silver-plated, not glass, covers; the latter are too easily broken. The spoons should be of the long-handled kind. The ladle for the ice cream should have a long, stout handle and should not easily rust. Or, instead of a ladle of this character, use one of the ice cream servers now made which hold a definite quantity of cream; when these are used, each customer receives the same amount of ice cream. The knife for cutting lemons should be one that does not rust easily; steel is not satisfactory, silver is better.

The Secret of Success.

The success of the soda water department will depend on several conditions. First, the location, and secondly, your capability and application. When the store is an established one, the former cannot be controlled. If it is left out of consideration, the success of the department—that is, whether or not it will pay or furnish revenue—depends on furnishing good soda, made with well carbonated water and good syrups, and serving the beverages in an absolutely clean manner without unnecessary delay.

CHAPTER III.

MATERIAL: QUALITY AND PRESERVATION.

Sugar.

This, next to water, is probably used more than any other substance in the soda department. Only the purest white granulated sugar should be used for making the syrups. Much of the sugar of the market contains ultramarine blue to give it a dazzling white appearance.

Syrups.

These should always be kept in a cool place to prevent possible decomposition. Fruit syrups are more liable to spoil than is simple syrup. They should, therefore, be kept in smaller quantities and be preserved with greater care.

Alcohol.

This is used for some preparations, such as the various extracts, etc. The better the quality of the alcohol used, the better will be the quality of the product. "Cologne spirit," or deodorized alcohol, is to be preferred to ordinary alcohol. The flavor of the impurities in the latter may deleteriously affect the other flavors.

Essential Oils.

Perhaps more difficulty is experienced in obtaining satisfactory essential oils and in properly preserving them than with other substances used in the soda department.

They must, to begin with, be purchased from reliable sources, those who deal in these goods exclusively being preferred, and the best quality demanded. No other is good enough for beverages. Upon receipt they should be put into small, well-stoppered bottles, which should be completely filled and put into a dark, cool place. Oils of lemon and orange, in particular, are not readily obtained of good quality, being either imperfectly prepared or grossly adulterated, and upon standing acquire the taste and odor of turpentine. In addition to keeping them in small, well-stoppered bottles, in a cool, dark place, it is advantageous to mix them, when received, with some pure alcohol, in about equal proportion. This mixture may be used in preparations instead of the oil, using, of course, twice as much as would be required of the latter.

Oil of hemlock, so-called oil of spruce, is also obtained pure with the greatest difficulty, it being an almost invariable rule to adulterate it with oil of turpentine.

The oil of bitter almond employed should be the kind deprived of hydrocyanic acid.

The oil of fennel should be so-called "sweet," made from fruit, not from chaff.

Ethers.

The ethers used in making artificial essences are usually not of very good quality. They should, like the essential oils, be purchased from reliable sources. They are all more or less volatile, and should, therefore, be kept in a cool place.

Vanilla.

Vanilla beans may be obtained of any quality and any size, the price varying according to both. The cost of vanilla extract may, therefore, be made to vary within very wide limits. Of course, too cheap or inferior pods should not be used, but it is also unnecessary to use the very highest priced, as the second or third quality will, for ordinary flavoring purposes, be just as satisfactory as the first quality.

Vanillin.

This substance is now largely employed in making vanilla extract. It varies greatly in quality, but only the pure article should be employed. The same remarks hold true for coumarin, which is often used in conjunction with vanillin.

Other materials will be mentioned in subsequent chapters.

CHAPTER IV.

COLORS AND COLORING AGENTS.

How to Produce the Various Colors.

It is customary to color certain soda syrups, confectionery, etc., or to enhance or modify their color if already colored; vanilla syrup, for example, is usually tinted brown, lemon essence yellow, strawberry syrup and essence red, etc. These colors must, of course, be absolutely harmless; for this reason mineral colors are to be avoided, as these are all more or less noxious. The coal-tar, so-called "aniline," dyes are generally eschewed owing to their supposed poisonous character. By reason of improved processes of manufacture, many of the latter may, however, now be obtained of a non-toxic character, so that there can be no great objection to their use, and, moreover, the amount of dye required is so exceedingly small that there could be, after all, no valid objection to them. However, the safest and best plan and the one usually adopted is to employ vegetable or animal coloring matters such as those mentioned below.

Another requisite of coloring agents besides non-toxicity, is tastelessness—at least in the amounts required.

The following list of colors embraces such coloring agents as have proven suitable and satisfactory:

Blue.

Use solution of indigo-carmine.

SOLUTION OF INDIGO-CARMINE.

Indigo-carmine	av. oz.	½
Water	fl. oz.	16

Indigo-carmine can be purchased or it may be prepared as follows:

Take of best indigo in lump any convenient quantity, say 30 grains. Powder in a large capsule (as it swells enormously in subsequent treatment), and dry thoroughly in the water-bath. When entirely dry, add, drop by drop, stirring constantly with a glass rod, 4 times its weight of fuming sulphuric acid. Cover the now swollen mass closely, and set the capsule aside for twenty-four hours. At the expiration of this time add 3 fluidounces of distilled water, a little at a time, with constant stirring, and transfer to a tall, narrow beaker, or a similar bottle, and let stand for four days, giving the liquid an occasional stirring in the meantime. Finally neutralize with sodium carbonate and be very careful in doing it, as the least excess of alkali may cause all the indigo to separate in a doughy mass. Filter the neutralized solution and evaporate to dryness at a low heat in a water-bath. The resultant powder, sulphindigotate of sodium, is the commercial indigo-carmine.

The solution above mentioned may be made weaker or it may be made stronger if desired.

Brown.

Use caramel. The soft extract of licorice has also been employed for producing a brown color.

CARAMEL.—(Sugar Coloring.—Burnt Sugar. Sarsaparilla Color.—Liquor Color.)

Owing to its very low price it is preferable to purchase this article already prepared. However, for those who desire to manufacture their own caramel, the following working formula is appended:

Heat 3 av. pounds of crushed sugar in a copper kettle, with one pint of water. At first the sugar will dissolve, but after a while it will again solidify to a firm mass, which must be broken up. When the pieces have again become liquefied, the mass becomes dark-colored and begins to foam, necessitating continued stirring. The heating is now continued over a gentle fire, until the mass has

become black and pitch-like. Then the kettle is removed from the fire, and 3 pints of boiling water poured in, which must be done cautiously and gradually, or the contents might run over. Finally, the kettle is replaced, the contents allowed to boil up a few times, and then again removed and allowed to become cold. During the boiling, the tendency of the contents to rise too high may be overcome by adding, from time to time, a little cold water.

The caramel thus produced is soluble in liquids containing up to about 50 per cent of alcohol. In strong alcoholic liquids, however, it is only partially soluble.

Instead of sugar, solidified grape-sugar may be employed in the above. The addition of sodium or ammonium carbonate facilitates the conversion of the grape-sugar to caramel. The working process is as follows:

Heat 3 av. pounds of grape-sugar in a porcelain-lined kettle over a direct flame. When the sugar has become liquefied, it must be kept well stirred to prevent it from rising and running over the sides of the vessel; the addition of a small amount of butter often prevents this, but if it does not, the heat should be moderated. The boiling of the sugar should be continued until there are signs of charring, then add 1 av.oz. of coarsely powdered ammonium or sodium carbonate, preferably the former, and continue with a gentle heat until the mass becomes of a consistence which renders stirring difficult, and until a small portion dipped into cold water becomes hard and brittle, and imparts no sweetness to the taste. When this point has been reached, add slowly, with constant stirring, hot water until the mass is reduced to the consistence of thick syrup.

The kind of grape sugar suitable for the manufacture of caramel is a highly sacharrified (i. e., nearly free from dextrin) article which is known as anhydrous grape-sugar.

Caramel is best employed in the form of an aqueous solution, as the concentrated article does not, owing to its consistency, mix well with liquids generally.

Caramel is employed for coloring vanilla syrup, sarsaparilla syrup, ginger-ale, syrup and extract, root-beer syrup, etc.

Green.

Use chlorophyll, tincture of grass, or mix yellow with blue, as follows:

Make an infusion of 180 grains of saffron to 8 fluidounces of distilled water, and to it add sufficient solution of indigo-carmine until the desired shade is obtained.

Another green may be made as follows:

Tincture of saffron	fl.oz. 6
Glycerin	fl.oz. 6
Solution of indigo-carmine	sufficient

Add the indigo-carmine solution gradually, with constant stirring, to the mixture of tincture and glycerin, until the desired shade is produced. If to be used immediately, the glycerin may be omitted or replaced by water.

A green powder that is useful in many ways may be made by thoroughly mixing 1 part of indigo-carmine in powder with 100 parts of turmeric and a similar amount of milk sugar.

CHLOROPHYLL.

This may be employed in alcoholic solution for coloring preparations of a green tint. It may be purchased or it may be prepared as follows:

Digest leaves of grass, nettles, spinach, or other green herb, in warm water, until soft; pour off the water, and crush the herb to a pulp. Boil this for a short time with a ½-per-cent solution of caustic soda, and afterwards precipitate the chlorophyll by means of dilute hydrochloric acid; wash the precipitate thoroughly with water, press and dry it, and use as much for the solution as may be necessary.

Instead of the above the following may be employed:

TINCTURE OF GRASS.

Lawn grass, fresh, cut fine	av.oz. 2
Alcohol	fl.oz. 16

Put the grass in a wide-mouth bottle, and pour the alcohol upon it. After standing a few days, agitating occasionally, pour off the liquid.

This is a useful preparation for giving a green color to essences, syrup of violets, etc. It can be used with alcohol or water.

Orange.

This color may be produced by adding red to yellow until the desired shade is produced, or by the use of solution of annatto.

SOLUTION OF ANNATTO.

This may be prepared by dissolving pure annatto in alcohol, making it of any desired strength. Pure annatto only should be employed. Ordinary annatto used for dyeing may be purified by dissolving in a weak solution of sodium carbonate or other alkali by the aid of heat. Let cool, and add pure dilute sulphuric acid, drop by drop, stirring constantly, until the soda is neutralized. The pure annatto which precipitates must be washed thoroughly with water and dried.

This solution may be used for coloring ices, and various other articles.

Purple.

This tint may be produced by mixing red and blue until the desired shade is produced, or by using tincture of litmus or ammoniated cochineal coloring.

TINCTURE OF LITMUS. (Solution of Litmus.)

Litmus, powder	av.oz.	2½
Water, boiling	fl.oz.	16
Alcohol	fl.oz.	3

Pour the water upon the litmus, stir well, allow to stand for about an hour, stirring occasionally, filter, and to the filtrate add the alcohol.

This may be employed for coloring violet essence and syrup.

AMMONIATED COCHINEAL COLORING.

Cochineal, powder	gr.	320
Alum, powder	gr.	10
Ammonia water	drops	10
Diluted alcohol	fl.oz.	16

Mix the cochineal and diluted alcohol, macerate for several days, agitating occasionally, add the alum, shake again, filter, add enough diluted alcohol through the filter to make the filter measure 16 fluidounces, and to the latter add the ammonia.

Red.

Use black cherry juice, black raspberry juice, carmine solution, cochineal color, cochineal syrup, tincture of cochineal, raspberry coloring, tincture of cudbear, compound tincture of cudbear, tincture of alkanet, tincture of red saunders, Brazil wood color, and brilliant red coloring.

BLACK CHERRY JUICE.—BLACK RASPBERRY JUICE.

These two juices are excellent for coloring raspberry, red orange and strawberry syrups. They make handsome-looking products, and are unobjectionable in every way.

Black raspberry syrup may be prepared in the manner described under "Fruit Juices;" the other is an imported article.

CARMINE SOLUTION.

Carmine, best	gr.	480
Ammonia water	fl.oz.	6
Glycerin	fl.oz.	6
Water enough to make	fl.oz.	16

Triturate the carmine to fine powder in a wedgewood mortar, gradually add the ammonia water, and afterwards the glycerin, under constant trituration. Transfer the mixture to a porcelain capsule, and heat on a water-bath, stirring constantly, until the liquid is entirely free from ammoniacal odor. Then cool and add enough water to make 16 fluidounces.—N. F.

Carmine solution may also be prepared by triturating the carmine with just enough solution of potassa to dissolve it, then adding 2 fluidounces of alcohol and enough water to make 16 fluidounces. Or, instead of the solution of potassa, use sufficient saturated solution of borax to dissolve the carmine, then add enough water to make 16 fluidounces.

Carmine solution makes a brilliant color, and is largely employed, but it is not a satisfactory preparation to use at the soda fountain because the syrups are acid as a rule and will separate the carmine from its alkaline combination and cause its precipitation.

COCHINEAL COLOR. (Liquor Coccineus.—Liquid Cochineal.)

Cochineal, powder	gr.	480
Potassium carbonate	gr.	240
Alum	gr.	240
Cream of tartar	gr.	480
Glycerin	fl.oz.	8
Alcohol	fl.oz.	1
Water enough to make	fl.oz	16

Triturate the cochineal intimately with the potassium carbonate and 8 fluidounces of water. Then add the alum and then the

cream of tartar; heat the mixture to boiling in a capacious vessel. Set it aside to cool, add the glycerin and alcohol, filter, and pass enough water through the filter to make 16 fluidounces.—N. F.

If the glycerin in the above be replaced partially or entirely by alcohol, the product will keep better.

This makes a nice and harmless color for strawberry and other syrups.

TINCTURE OF COCHINEAL.

Cochineal, powder.....av.oz 2
Diluted alcohol.....sufficient

Extract the cochineal by percolation or maceration, so as to obtain 16 fluidounces of product.

COCHINEAL SYRUP.

Cochineal, coarse powder.....gr 100
Potassium carbonate.....gr. 32
Distilled water.....fl.dr. 4
Alcohol.....fl.dr. 3
Simple syrup..enough to make fl.oz. 16

Rub up the potassium carbonate and cochineal together, add the water and alcohol, then the syrup, and filter, or allow the solid matter to subside by standing.

This preparation is not a satisfactory one to make, and the one immediately preceding should always receive preference.

RASPBERRY COLORING. (Rubine.)

Cochineal, powder.....av.oz. 4
Cream of tartar.....av.oz. ½
Diluted alcohol.....
.....sufficient to make fl.oz. 16

Mix the cochineal and cream of tartar, moisten with diluted alcohol, pack in a percolator, and pass the menstruum through the drug until the latter is exhausted. Reserve the first 14 fluidounces, evaporate the remainder of the percolate to 2 fluidounces, and mix with the reserved portion.

TINCTURE OF CUDBEAR. (Tinctura Persionis.)

Cudbear, fine powder.....av.oz. 2¼
Alcohol.....
Water.....of each, sufficient

Pack the cudbear in a percolator and percolate with a mixture of 1 volume of alcohol and 2 of water until 16 fluidounces of product are obtained.—N. F.

This preparation imparts a bright-red tint, and is especially suitable for acid liquids. The color produced is somewhat different from cherry or raspberry juice or cochineal, but it may be employed instead of either of these.

COMPOUND TINCTURE OF CUDBEAR.

Cudbear, powder.....gr. 120
Caramel.....av.oz. 1½
Alcohol.....
Water.....of each, sufficient

Macerate the cudbear with 12 fluidounces of a mixture composed of 1 volume of alcohol and 2 of water, for 12 hours, agitating frequently, then filter. Add the caramel, previously dissolved in 2 fluidounces of water, and then pass through the filter enough of the before-mentioned alcohol-water mixture to make the whole liquid measure 16 fluidounces.

This preparation may also be made by dissolving 1½ av. ounces of caramel in 2 fluidounces of water, adding 4 fluidounces of tincture of cudbear, and then enough of a mixture composed of 1 volume of alcohol and 2 of water to make the whole measure 16 fluidounces.

This preparation may be employed for producing a brown-red tint, or a red tint devoid of the purplish cast of cudbear.

TINCTURE OF RED SAUNDERS.

Red saunders, fine powder.....av.oz. 3
Alcohol.....sufficient

Pack the saunders firmly in a percolator, and pass alcohol slowly through it until 16 fluidounces of tincture are obtained.

Owing to its resinous character, this preparation is suitable only for such preparations as are themselves of a strongly alcoholic character, such as some of the essences or extracts and liqueurs. It makes a fine red color.

TINCTURE OF ALKANET.

Alkanet, fine powder.....av.oz. 4
Alcohol.....sufficient

Extract the alkanet by slow percolation so as to obtain 16 fluidounces of product.

This may be employed for coloring essences and other liquids of a strongly alcoholic character.

BRAZILWOOD COLOR. (Pernambuco Color.)

Brazilwood, coarse powder....av.oz 1¾
Alum, powder.....gr. 400
Cream of tartar.....gr. 225
Alcohol.....fl.oz. 3
Water.....sufficient

Boil the wood, alum and cream of tartar with 16 fluidounces of water for one half hour, occasionally adding a small amount of water to replace a portion of that lost by evaporation, then filter, adding through the filter enough water to make the filtrate measure 13 fluidounces, and to the latter add the alcohol.

BRILLIANT RED COLORING. (Ruby Cherry Fruit Coloring.)

Ruby S aniline	av oz.	½
Alcohol	fl.oz.	2
Water	fl oz.	14

Shake the aniline with the alcohol, then add the water.

This makes a brilliant color, not impaired by acids. Two fluidrams are sufficient to color one gallon of syrup a deep red.

This is similar to a largely-advertised proprietary article.

Pink.

Use same as the preceding, using smaller quantities of the coloring agent.

Yellow.

Use tincture of turmeric, tincture of fustic, tincture of saffron, infusion of saffron, and quercitrin.

TINCTURE OF CURCUMA.

Curcuma, powder	av. oz.	2
Diluted alcohol	fl.oz.	16

Macerate for several days, agitating frequently, and filter.

This may be employed for coloring lemon and orange and other essences, pineapple and lemon syrups, etc. It is objectionable because of its spicy taste.

TINCTURE OF FUSTIC. (Liquid Fustic.)

Fustic, fine powder	av.oz.	4
Diluted alcohol		sufficient

Moisten the drug with the menstruum, pack in a percolator, and percolate with the menstruum until 16 fluidounces of product are obtained.

TINCTURE OF SAFFRON. (Liquid Saffron.

Both Spanish and American saffron (crocus and carthamus) contain yellow coloring matters, and tinctures may be made in the proportion of about 1 ounce to the pint, using as a menstruum a mixture of 1 volume of alcohol and 8 of water. Spanish saffron is, as a rule, too expensive to use for coloring purposes.

INFUSION OF SAFFRON.

Instead of making a tincture as in the preceding, water may be used to extract the crocus or carthamus. The product does not keep well.

QUERCITRIN.

This is the yellow coloring principle of black oak bark, and in aqueous solution may be employed for producing yellow coloration.

What Agents Are Harmless.

While all of the above colors are perfectly harmless, the following list indicates what coloring agents, not coal-tar colors, are permitted by the French government (whose restrictions in matters relating to foods are very stringent) for coloring confectionery, liquors, etc:

Blue.—Prussian and ultramarine blues.

Red.—Cochineal and carmine.

Yellow.—Carmine lake, saffron, French berries (rhamnus catharticus), turmeric and fustic.

Green.—A mixture of one of the blues and one of the yellows.

Coal-Tar ("Aniline") Colors.

Coal-tar colors are generally unfit for use and most of the European governments have stringent regulations against their use in food products. The French government, for example, permits only the following in small quantities:

Pinks.—Eosin, erythrosin, Bengal rose, phloxin, Bordeaux red, ponceau, and fuchsin prepared without arsenic.

Yellows.—Sulpho-conjugated derivatives of naphthol.

Blues.—Lyons blue, light blue, Coupier's blue, and all triphenyl, rosaniline or diphenylamide derivatives.

Greens.—All mixtures of the yellows and blues given above, also malachite green.

Purple.—Paris violet or methyl aniline.

According to the decision of the Superior Sanitary Commission of Austria, the following-named colors may be employed for coloring confectionery, liquors, essences, etc.:

Reds.—Fuchsin, acid fuchsin, roccellin, Bordeaux red, ponceau, eosin, erythrosin and phloxin.

Blues.—Alizarin blue, aniline blue and indulin.

Yellows.—Acid yellow R and tropæolin OOO (orange I).

Violet.—Methyl violet.

Greens.—Malachite green, also greens obtained by mixing the above yellow and blue colors.

Samples of the above colors must be submitted yearly to the commission for examination and then labeled accordingly for the above purpose.

CHAPTER V.

FOAM PREPARATIONS.

Soda Foam. (Gum Foam.—Foam Extract.—Foam Essence.—Foam Solution.)

By the title "soda foam," or the more improper term "gum foam" is meant a liquid to be added to syrups so that when mixed with carbonated ("soda") water a certain proportion of gas will be retained in the mixture in the desirable form of foam. Different substances are used in these "foams," varying in their gas-retaining or foam-holding qualities. Among the more common are gelatin, white of egg, and quillaja (soap bark).

Gelatin.

If gelatin be used as a foam producer, it must be dissolved by the aid of heat in the water used in making plain syrup. About one-half av. ounce is sufficient for one gallon of syrup.

Albumen Foam.

In making this preparation, the white of 1 egg should be added to 16 fluidounces of water, stirring well, and straining. Or one-half of the water may be replaced by simple syrup. This mixture decomposes very quickly, and should be preserved on ice, or, better yet, it should be prepared only as required.

If the egg-white be incorporated with a mixture of equal parts of glycerin and distilled water instead of with syrup or water as above, the product will keep quite well, and will be equally satisfactory.

About one fluidounce of this liquid is enough for one-half gallon of syrup.

Soap Bark Foam. (Tincture of Quillaja or Soap Bark.)

Quillaja (soap bark) is used in the form of a tincture, which may be prepared as follows:

Quillaja, fine chips	av.oz. 5½
Alcohol	fl.oz. 10
Water	sufficient

Mix the drug with 24 fluidounces of water, boil for 15 minutes, strain, and add enough water through the strainer to make the colature measure 22 fluidounces. Mix the liquid, when cool, with alcohol, let stand for 12 hours, filter, and to the filtrate add enough water to make it measure 32 fluidounces.

If a cheaper preparation is desired, the alcohol may be replaced by water or by glycerin. If the former be used, the preparation must be preserved by the addition of a small amount of salicylic acid solution. Either of the latter is to be preferred to the alcoholic preparation, as the alcohol has the tendency to cause premature expulsion of gas from the soda when served.

About one fluidounce of this preparation is usually sufficient for one gallon of syrup.

Soapwort Foam. (Tincture of Saponaria or Soapwort.)

Soapwort may replace the soap bark in the preceding preparation. This soapwort foam is to be used in the same proportion as the preceding.

Compound Soda Foam. (Compound Tincture of Quillaja or Soapbark.)

A "foam" may be produced from a mixture of sarsaparilla root and soap bark (four

av. ounces of each), finely ground, by extraction with diluted alcohol enough to make 32 fluidounces. This is also to be used like the tincture of quillaja.

Irish Moss Foam.

Irish moss foam, or "solution of Irish moss," may be prepared by thoroughly washing one av. ounce of Irish moss to free it from salt, then boiling with 16 fluidounces of water for 5 minutes, or heating with the same amount of water on a water-bath for 15 minutes, then straining through flannel.

This may be used in the proportion of 2 to 4 fluidounces to 1 gallon of syrup.

Mucilage of Acacia.

This preparation (8 av. ounces of gum and 16 fluidounces of water) may also be used as a foam.

Of all these "foams," the tincture of soap bark is most generally satisfactory, and most convenient. True it is that it contains an irritant principle, saponin, which will make itself felt if added in too large amount to syrups. Therefore, many dispensers employ albumen or gelatin. The latter must be dissolved by heat in the water used in making syrup, and inasmuch as the latter is most conveniently prepared cold, the necessary requirement of heat is a disadvantage. Albumen is objectionable because the syrup jars must at each filling be thoroughly cleansed, as otherwise the syrups will certainly have a more or less offensive odor. Mucilage of acacia is too expensive as a soda foam.

The preparations sold in the market under such titles as "gum foam," "foam extract," "foam essence," etc., are usually tincture of quillaja.

CHAPTER VI.

EXTRACTS AND ESSENCES.

Under this title are grouped a number of preparations intended for flavoring purposes, many of them being known as "soluble essences," meaning thereby such as will mix with water or aqueous liquids without becoming turbid.

As a rule, considerable skill is required to make a "soluble essence"; sometimes its preparation is impossible without loss of valuable properties, which will make it necessary to add an extraneous substance for purposes of fortification, as in adding capsicum to ginger essence.

Some of the formulas here presented are commonly known as "flavoring or culinary essences or extracts," and include lemon, orange and vanilla extracts, as well as the "artificial extracts." Most of these may be profitably compounded and sold in panel bottles as extracts or essences for culinary use. Exclusively culinary preparations are here included in order that the department may be most complete. The essences sold by grocers are made according to these formulas, which may be employed for making soda fountain syrups, but it must be borne in mind that the "artificial extracts" are compounded of ethers and are more or less deleterious to health, and hence syrups made with them are decidedly inferior to syrups prepared from fruits or fruit juices. They may, however, be employed to fortify the flavor of syrups made from the fruit or from fruit juice.

These extracts may be cheapened or reduced if desired by employing less of the respective oils or ethers or more of the alcohol. On the other hand, the product may be obtained in more concentrated form by employing less alcohol and more of the respective oils or ethers.

To produce first-class preparations only the best of material should be employed. The oils of orange and lemon should be of the best, and should be dissolved in alcohol as soon as received. Vanilla should likewise be of the best quality. The alcohol employed should be deodorized alcohol, or, at any rate, a good "cologne spirit." Other ingredients should likewise be of the best obtainable quality.

The artificial flavoring extracts are frequently known as "Fruit Ethers," and sometimes "Fruit Oils." Many of the ethereal ingredients of these extracts have received in the trade special, significant names. For example, amyl acetate is known as "Pear Oil," amyl valerianate as "Apple Oil," butyric ether as "Pineapple Oil" and "Rum Ether," œnanthic ether as "Oil of Wine" and "Grape Oil," and sometimes as "Cognac Oil," although various mixtures are also frequently sold under the latter designation.

General Flavoring Extract.

Lemon essence	fl. dr.	3
Oil of bitter almonds (deprived of hydrocyanic acid)	fl. dr.	2
Oil of cinnamon	fl. dr.	2
Oil of nutmegs	fl. dr.	1
Alcohol, deodorized	fl. oz.	15

A few drops are to be added to puddings, custards, etc.

Absinthe Essence. (Wormwood Bitters Extract.—Wormwood Essence.)

I.

Wormwood	av. oz.	1
Juniper berries	av. oz.	½
Cinnamon	gr.	60
Coriander	gr.	60
Ginger	gr.	60
Nutmeg	gr.	30
Bitter orange peel	gr.	30
Diluted alcohol enough to make	fl. oz.	16

Mix the solids, reduce to fine powder, and extract by percolation with diluted alcohol so as to obtain 16 fluidounces of product.

II.

Wormwood	gr.	150
Centaury	gr.	150
Blessed thistle	gr.	150
Gentian	gr.	100
Cinchona	gr.	100
Bitter orange peel	gr.	100
Orris root	gr.	75
Grains of paradise	gr.	200
Alcohol, enough to make	fl.oz.	16

Mix the solids, reduce to fine powder, and extract by percolation so as to obtain 16 fluidounces of product.

III.

Oil of calamus	fl.dr.	3
Oil of orange	fl.dr.	3
Oil of cloves	drops	40
Oil of cinnamon	drops	40
Oil of wormwood	drops	20
Oil of anise	drops	20
Alcohol	fl.oz.	8
Water	fl.oz.	8
Purified talcum	av.oz.	1

Dissolve the oils in the alcohol, shake with the talcum, add the water, agitate again, and filter.

Allspice Essence or Extract.

See "Pimento Essence."

Almond Essence or Extract. (Extract of Bitter Almond.—Essence of Noyeau.)

Oil of bitter almonds (free of hydrocyanic acid)	fl.dr.	1
Alcohol, deodorized	fl.oz.	10
Water, enough to make	fl.oz.	16

Dissolve the oil in the alcohol, and add the water. Color yellow with some yellow coloring.

Ambrosia Extract or Essence.

Mix equal parts of vanilla and raspberry, or vanilla and strawberry extracts.

Anise Essence or Extract.

I.

Oil of anise	fl.oz.	1
Alcohol, deodorized	fl.oz.	15

The U. S. P. spirit of anise is made with 1 fluidounce of oil and 9 fluidounces of alcohol.

The above may be tinted slightly with caramel.

II.

Oil of star anise	fl.oz.	½
Aniseed, freshly ground	av.oz.	1
Alcohol, deodorized	fl.oz.	16

Macerate for several days, agitating occasionally, and filter.

Apple Essence or Extract. (Apple Ether.)

I.

Chloroform	fl.dr.	1
Nitrous ether	fl.dr.	1
Acetic ether	fl.dr.	1
Acetic aldehyde	fl.dr.	2
Amyl valerianate	fl.dr.	10
Saturated alcoholic solution of oxalic acid	fl.dr.	1
Glycerin	fl.dr.	4
Alcohol, deodorized, enough to make	fl.oz.	16

This may be colored yellow or red with some suitable coloring.

II.

Amyl acetate	oz.	1
Ammonium valerianate	gr.	60
Diluted alcohol	fl.oz.	16

III.

Amyl valerianate	fl.oz.	1
Alcohol, deodorized	fl.oz.	7

IV.

Amyl valerianate	fl.dr.	4
Linalyl formate	fl.dr.	¾
Weaker tincture of orris	fl.oz.	12
Glycerin	fl.oz.	1
Water, enough to make	fl.oz.	16

Filter through purified talcum until clear.

Apricot Essence or Extract.

I.

Chloroform	fl.dr	1
Œnanthic ether	fl.dr.	1
Amyl butyrate	fl.dr.	1
Saturated alcoholic solution of tartaric acid	fl.dr.	1
Glycerin	fl.dr.	4
Alcohol, deodorized, enough to make	fl.oz.	16
Amyl alcohol	fl.dr.	2
Valerianic ether	fl.dr.	5
Butyric ether	fl.dr.	10

Color yellow with some suitable coloring agent

II.

Amyl butyrate	fl.oz.	1
Œnanthic ether	fl.dr.	1
Valerianic ether	fl.dr.	4
Butyric ether	fl.dr.	2
Oil of bitter almond (deprived of hydrocyanic acid)	drops	20
Glycerin	fl.oz.	2
Alcohol, deodorized, enough to make	fl.oz.	16

Color yellow like the preceding.

III.

Amyl valerianate	fl.dr.	4
Linalyl formate	fl.dr.	1½
Weaker tincture of orris	fl.oz.	12
Glycerin	fl.oz.	1
Water, enough to make	fl.oz.	16

Filter through purified talcum until clear.

Banana Essence or Extract. (Banana Ether.)

I.

Amyl acetate	fl.oz.	1
Alcohol, deodorized	fl.oz.	14
Water, distilled	fl.oz.	1

This may be tinted with some yellow coloring.

II.

Butyric ether	fl.oz.	1¼
Essence of lemon	fl.dr.	1
Essence of orange	fl.dr.	1
Alcohol, deodorized, enough to make	fl.oz.	16

The essences in this formula should be prepared by macerating 1 part of finely-cut fresh lemon or orange peel with 5 parts of alcohol for 8 days, then expressing and filtering.

III.

Amyl acetate	fl.oz	1
Valerianate ether	fl.dr.	1
Diluted alcohol	fl.oz.	15

Color like the preceding.

IV.

Butyric ether	fl.oz.	1
Amyl acetate	fl.oz.	1
Glycerin	fl.dr.	4
Alcohol, deodorized, enough to make	fl.oz.	16

This may be tinted with some yellow coloring.

V.

Acetic aldehyde	fl.dr	1¼
Chloroform	fl.dr.	1¼
Butyric ether	fl.dr.	6
Amyl butyrate	fl.dr.	12
Glycerin	fl.dr.	4
Alcohol, deodorized, enough to make	fl.oz.	16

Bay Essence or Extract.

Oil of bay	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

This may be used for flavoring soups, etc., instead of the leaves.

Beer Extract or Essence.

Different mixtures are sold under this name to be added to beer to impart a heavier flavor. One is made as follows:

I.

Acetic ether	fl.dr.	½
Grape essence	fl.dr.	½
Raisin extract	fl.oz.	1
Fluid extract of hops	fl.oz.	16

The following is also employed:

II.

Tincture of lupulin	fl.oz.	1½
Pyroligneous acid	fl.oz.	8
Alcohol, enough to make	fl.oz.	16

Instead of tincture of lupulin, use lupulin itself, 1½ av. ounces, macerate with the alcohol and acid for 7 days, and filter, adding through the filter enough alcohol to make up 16 fluidounces of product.

Birch Essence or Extract.

I.

Oil of wintergreen	fl.dr.	5
Oil of lemon	fl.dr.	2
Oil of cloves	fl.dr.	½
Oil of sassafras	drops	20
Extract of vanilla	fl.oz.	4
Alcohol, deodorized, enough to make	fl.oz.	16

Dissolve the oils in the alcohol, and add the vanilla extract.

II.

Sassafras bark	av.oz.	1½
Pimento	av.oz.	1½
Wintergreen	av.oz.	1¼
Wild-cherry bark	av.oz.	¾
Coriander	av oz.	¾
Hops	av.oz.	½
Diluted alcohol		sufficient

Mix the drugs, reduce to fine powder, and extract with the menstruum so as to obtain 16 fluidounces of percolate.

III.

When birch essence is demanded, it may be essence of wintergreen that is wanted, as oil of wintergreen is largely made from the bark of the sweet or black birch.

Birch Beer Extract.

I.

Oil of wintergreen	fl.dr.	6
Oil of sassafras	fl.dr.	1
Oil of lemon	fl.dr.	1
Oil of cinnamon	drops	3
Catechu	gr.	15
Magnesium carbonate, or purified talcum	av.oz.	¾
Caramel	fl.oz.	½
Alcohol, deodorized	fl.oz.	18
Water	fl.oz.	14

Dissolve the oils in the alcohol, rub the magnesium or talcum with the water, add the caramel and catechu, add this mixture to the oil solution, agitate thoroughly, let stand for several days, agitating frequently, and filter.

II.

Oil of cloves	fl.dr.	½
Oil of lemon	fl.dr.	2
Oil of ginger	fl.dr.	5
Vanilla extract	fl.oz.	4
Alcohol, deodorized, enough to make	fl.oz.	16

Blackberry Essence or Extract. (Blackberry Ether.)

I.

Butyric ether	fl.dr.	4
Amyl acetate	fl.dr.	1
Vanilla extract	fl.dr.	2
Weaker tincture of orris, enough to make	fl.oz.	16

This may be colored with caramel or with compound tincture of cudbear.

II.

Acetic ether	fl.dr.	½
Butyric ether	fl.dr.	1
Weaker tincture of orris	fl.oz.	16

This may be colored like the preceding.

Sometimes 4 fluidrams of acetic acid is added to the above.

Black Pepper Essence.

See "Pepper Essence."

Cacao Extract.

Cacao (or "cocoa"), powder	av.oz.	8
Vanilla, reduced to coarse powder	av.oz.	1¼
Cinnamon, powder	av.oz.	1¼
Ambergris	gr.	50
Alcohol, deodorized, Water	of each, sufficient	

Mix the solids, add a mixture of 14 fluidounces of alcohol and 2 of water. Macerate for 14 days, agitating frequently, then filter, and pass enough of the same mixture of alcohol and water through the filter to make the product measure 16 fluidounces.

Calamus Extract or Essence.

Oil of calamus	fl.oz.	½
Alcohol, enough to make	fl.oz.	16

Caraway Essence or Extract.

Caraway seed, bruised	av.oz.	1
Oil of caraway	fl.dr.	2
Diluted alcohol	fl.oz.	16

Mix, macerate for 7 days, agitating occasionally, and filter.

Cardamom Essence or Extract.

I.

Oil of cardamom	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

II.

Cardamom, coarse powder	av.oz.	4
Alcohol, deodorized	sufficient	

Macerate the cardamom in 16 fluidounces of alcohol for 7 days, agitating occasionally, filter, and add enough alcohol through the filter to make 16 fluidounces.

Cascara Extract.

Oil of cinnamon	drops	15
Oil of nutmeg	drops	20
Oil of cloves	drops	30
Tincture of tolu	fl.dr.	3
Tincture of ginger	fl.oz.	3
Aromatic fluid extract of cascara sagrada, N. F.	fl.oz.	4
Magnesium carbonate	av.oz.	½
Water, enough to make	fl.oz.	16

Triturate the oils, tinctures and fluid extract with the magnesium carbonate, add a portion of the water, filter, and pass enough water through the filter to make the filtrate measure 16 fluidounces.

Celery Essence or Extract.

I.

Celery seed, bruised	av.oz.	2
Diluted alcohol	fl.oz.	16

Mix, macerate for 7 days, agitating frequently, and filter.

II.

Oil of celery	fl.dr.	2
Magnesium carbonate, or purified talcum	av.oz.	½
Diluted alcohol	fl.oz.	16

Add the oil to the alcohol, then incorporate the magnesium carbonate and water, and filter.

Champagne Cider Extract.

Apple essence	fl.oz.	5
Pear essence	fl.oz.	5
Lemon essence	fl.oz.	5
Solution of citric acid	fl.oz.	1

As it is sometimes prepared, other extracts such as vanilla, strawberry, tonka, etc., may enter into its composition.

Cherry Essence or Extract. (Cherry Ether.)

I.

Œnanthic ether	fl.dr.	1
Acetic ether	fl.dr.	5
Benzoic ether	fl.dr.	5
Glycerin	fl.dr.	8
Saturated alcoholic solution of benzoic acid	fl.dr.	1
Alcohol, deodorized enough to make	fl.oz.	16

II.

Cherry laurel oil	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Cherry Essence or Extract (Black). (Black Cherry Ether.)

I.

Benzoic ether	fl.dr.	5
Acetic ether	fl.dr.	10
Oil of bitter almond (deprived of hydrocyanic acid)	fl.dr.	2
Saturated alcoholic solution of benzoic acid	fl.dr.	2
Saturated alcoholic solution of oxalic acid	fl.dr.	1
Alcohol, deodorized enough to make	fl.oz.	16

II.

Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	1¼
Benzoic acid	gr.	80
Amyl butyrate	fl.dr.	1¼
Acetic ether	fl.dr.	6
Benzoic ether	fl.dr.	6
Glycerin	fl.oz.	1
Alcohol, deodorized enough to make	fl.oz.	16

III.

Benzoic ether	fl.oz.	1
Œnanthic ether	fl.dr.	2
Amyl acetate	fl.dr.	2
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	1
Black cherry juice	fl.oz.	4
Glycerin	fl.oz.	2
Alcohol, deodorized enough to make	fl.oz.	16

Cherry Essence or Extract (Red). (Red Cherry Ether.)

Benzoic ether	fl.oz	1
Œnanthic ether	fl.dr.	2
Amyl butyrate	fl.dr.	4
Amyl acetate	fl.dr.	2
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	1
Cherry juice	fl.oz.	2
Glycerin	fl.oz.	2
Alcohol, deodorized enough to make	fl.oz.	16

Cherry Essence or Extract (Wild). (Wild Cherry Ether.)

I.

Acetic ether	fl.dr.	5
Benzoic ether	fl.dr.	5
Œnanthic ether	fl.dr.	1
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	2
Saturated alcoholic solution of benzoic acid	fl.dr.	1
Glycerin	fl.dr.	4
Alcohol, deodorized enough to make	fl.oz.	16

II.

Benzoic ether	fl.oz.	1
Œnanthic ether	fl.dr.	2
Amyl acetate	fl.dr.	2
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	1
Fluid extract of wild cherry	fl.oz.	8
Glycerin	fl.oz.	2
Alcohol, deodorized enough to make	fl.oz.	16

Cherry Nectar Extract.

Cherry essence	fl.oz.	8
Pineapple essence	fl.oz.	4
Vanilla extract	fl.oz.	4

Chocolate Extract.

So-called chocolate "extract" (not "fluid extract") or "paste" may be prepared by triturating 4 av. ounces of powdered cocoa or chocolate with 5 av. ounces of glycerin to a smooth paste, adding enough boiling water to make 16 fluidounces, mixing

well, and straining. Or the mixture may be boiled for 5 minutes, allowed to cool, water added to make one pint, and the mixture flavored with vanilla extract.

Or it may be prepared according to this formula:

Chocolate or cocoa, powder	av.oz.	6
Sugar, powder	av.oz.	20
Glycerin	fl.oz.	1
Rose water	fl.oz.	½
Vanilla syrup		sufficient

Make an intimate mixture of the sugar and chocolate or cocoa, add the glycerin and rose water, and then enough vanilla syrup to make a thick paste, carefully reducing all lumps which may form.

The rose water may be omitted.

To make chocolate syrup from this extract mix it with syrup in about the proportion of 4 fluidounces of the former to 12 fluidounces of the latter. The advantage of this "extract" is that the syrup can be prepared just as it may be wanted.

Cider Essence.

Chloroform	fl.dr.	1
Acetic aldehyde	fl.dr.	2
Acetic ether	fl.dr.	2
Amyl valerianate	fl.dr.	10
Alcohol, deodorized, enough to make	fl.oz.	16

Add this to a mixture of sugar and water, acidify with tartaric acid, and color with caramel.

Cinnamon Essence or Extract. (Cassia Extract.)

I.

Cinnamon, Ceylon or Saigon, bruised	av.oz.	2
Oil of cinnamon	fl.dr.	4
Diluted alcohol	fl.oz.	16

Mix, macerate for 7 days, agitating occasionally, and filter.

II.

Oil of cinnamon	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Color with tincture of red saunders.

Clove Essence or Extract.

I.

Cloves, bruised	av.oz.	1
Oil of cloves	fl.dr.	2
Diluted alcohol	fl.oz.	16

Mix, macerate for 7 days, agitating occasionally, and filter.

Strong alcohol may be substituted, if desired, for the diluted alcohol, to the advantage of the preparation.

II.

Oil of cloves	fl.dr.	4
Alcohol, deodorized	fl.oz.	8
Water	fl.oz.	8

Dissolve the oil in the alcohol, add the water and filter. Color slightly with caramel.

Coffee Extract.

Mocha coffee	av.oz.	10
Java coffee	av.oz.	10
Glycerin, Water		of each, sufficient

Mix the two coffees and grind to fine powder. Then moisten with a mixture of 1 volume of glycerin and 3 of water, pack in a percolator and percolate slowly until 16 fluidounces of percolate are obtained.

More complete extraction will be obtained by pouring the menstruum in a hot condition upon the drug.

If on the residue of the drug be poured more of the same menstruum until about 20 fluidounces of percolate are obtained, the latter may be used to make a subsequent preparation of the same kind, thus insuring a stronger extract.

Only a glass percolator should be used for this extraction. Only the very best coffee should be used in making this preparation.

Some coffee extracts are made of only one-half the strength of the above. Some are made with diluted alcohol as a menstruum, but the above is to be preferred.

Cognac Essence.

I.

Acetic ether	fl.oz.	2
Spirit of nitrous ether	fl.oz.	1½
Rectified pyroligneous acid	fl.dr.	1½

This, with cognac oil, is added to dilute alcohol to make factitious cognac brandy.

II.

Œnanthic ether	fl.dr.	1¼
Acetic ether	fl.oz.	1½
Raisin extract	fl.oz.	1½
Alcohol	fl.oz.	13

Coriander Essence or Extract.

Oil of coriander	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

This may be colored slightly with caramel if desired.

The oil may be slightly decreased and replaced by freshly powdered coriander.

Cream Soda Extract.

The preparation sold by supply houses under this name differs according to the fancy of the compounder, being varying mixtures of popular flavors, viz., extracts of vanilla, pineapple, etc.; sometimes a mixture of tincture of quillaja and vanilla extract is sold under this name.

Currant Essence or Extract. (Currant Ether.)

I.

Acetic aldehyde	fl.dr.	1
Benzoic ether	fl.dr.	1
Œnanthic ether	fl.dr.	1
Acetic ether	fl.dr.	5
Saturated alcoholic solution of succinic acid	fl.dr.	1
Saturated alcoholic solution of benzoic acid	fl.dr.	1
Saturated alcoholic solution of tartaric acid	fl.dr.	5
Alcohol, deodorized, enough to make	fl.oz.	16

Color with currant juice or any suitable red coloring.

II.

Acetic ether	fl.oz.	1
Œnanthic ether	fl.dr.	1
Weaker tincture of orris	fl.dr.	6
Oil of bitter almonds (deprived of hydrocyanic acid)	drops	20
Currant juice	fl.oz.	4
Glycerin	fl.oz.	2
Alcohol, deodorized, enough to make	fl.oz.	16

Curry Essence.

Oil of cardamom	fl.dr.	½
Oil of caraway	fl.dr.	1
Oil of cloves	fl.dr.	1
Oil of black pepper	fl.dr.	2
Oil of coriander	fl.dr.	2
Tincture of capsicum	fl.oz.	4
Tincture or essence of ginger	fl.oz.	6
Tincture of turmeric	fl oz.	6

Mix and filter.

Dill Essence or Extract.

Oil of dill	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Ginger Essence or Extract.

Some ginger essences or extracts are deprived of the resin naturally contained in the ginger. These are miscible with water and aqueous liquids, such as simple syrup, without causing turbidity, and they are commonly known as "soluble essences." The non soluble or immiscible essences, however, more truly represent the drug. The former usually require fortification with capsicum and the addition of coloring matter.

I.

Fluid extract of ginger	fl.oz.	5¼
Pumice, fine powder	av.oz.	1¼
Water, enough to make	fl.oz.	16

Introduce the fluid extract into a bottle, add the pumice, and shake the mixture thoroughly and repeatedly during the course of several hours. Then add the water in portions of about 2½ fluidounces, shaking well and repeatedly after each addition. When all is added, repeat the agitation occasionally during 24 hours, then filter, returning the first portions of the filtrate until it runs through clear, and, if necessary, pass enough water through the filter to make 16 fluidounces.—N. F.

II.

Jamaica ginger, ground	av.oz.	8
Alcohol	fl.oz.	4

Mix, let stand for several hours, and with same menstruum percolate to obtain 12 fluidounces. To this tincture add 1 av. ounce heavy magnesium carbonate, shake well, and add 12 fluidounces of water, shake again, and filter. If the filtrate is turbid, add more magnesium carbonate and filter again. It deposits slightly on standing a few days, but if again filtered it remains clear.

III.

Ginger root, powder	av.oz.	8
Lime, slaked	av.oz.	½
Pumice stone, powder	av.oz.	½
Diluted alcohol		sufficient

Rub the first three ingredients together, moisten with diluted alcohol, pack in a percolator, pour on more menstruum, macerate

for 24 hours, and then percolate slowly to obtain 16 fluidounces of percolate.

IV.

Tincture of ginger, U. S. P.	fl.oz. 16
Calcium chloride	gr. 75
Sodium phosphate	gr. 180
Sodium carbonate	gr. 45
Water	sufficient

Mix the tincture with 12 fluidounces of water, mix well, add the calcium chloride dissolved in 1 fluidounce of water, again mix well; now add the sodium phosphate dissolved in 4 fluidounces of water, shake the whole thoroughly, add the sodium carbonate, set the mixture aside for one day, and finally filter.

V.

Tincture of ginger, U. S. P.	fl.oz. 8
Tincture of capsicum	fl.dr. 1½
Oil of ginger	fl.dr. 1
Magnesium carbonate	av.oz. ½
Water	sufficient

Triturate the oil with the magnesium carbonate, and add the tinctures; then incorporate about 7 fluidounces of water in divided portions, stirring vigorously meanwhile. Transfer the mixture to a bottle, and allow to stand for 7 days, agitating frequently, then filter, and add enough water through filter to make 16 fluidounces.

VI.

Ginger root, bruised	av.oz. 2
Wild ginger, bruised	gr. 60
Lemon peel, fresh, bruised	av.oz. 1
Diluted alcohol	fl.oz. 16

Mix, macerate for 7 days, agitating occasionally, and filter.

This preparation differs from the preceding in that it is not a so-called "soluble" extract; that is, it does not form a clear mixture with water. It is, therefore, suitable only as a culinary essence.

VII.

Jamaica ginger	av.oz. 10
Calamus, decorticated	av.oz. ¾
Cardamom	gr. 160
Cassia buds	gr. 80
Cochineal	gr. 20
Brandy, best French	fl.oz. 2½
Alcohol enough to make	fl.oz. 32

Mix the solid ingredients, and reduce to No. 40 powder, moisten with alcohol, and pack into a percolator, and after allowing maceration to proceed for about 12 hours permit percolation to proceed until about 29½ fluidounces are obtained. Lastly add the brandy and filter. The latter may be omitted and the percolation continued up to 32 fluidounces.

This extract becomes turbid with water or syrup, and hence it is not suitable for soda-fountain use. It is well for culinary and medicinal purposes.

Ginger Ale Extract. (Ginger Wine Essence.)

Great diversity exists among the formulas for this preparation, and a number of them are herewith presented. The selection of any one in preference to the others is almost entirely a matter of taste.

I.

Fluid extract of ginger	fl.oz. 6
Lemon essence	fl.dr. 2
Solution of citric acid	fl.oz. 2
Pumice or purified talcum, powder	av.oz. 1
Water enough to make	fl.oz. 16

Triturate fluid extract intimately with the pumice or talcum, gradually add 8 fluidounces of water with continuous trituration, then incorporate the solution and the essence, cover the vessel, set aside for 24 hours, filter, returning the first portions of the filtrate to the filter until the liquid comes off clear, and finally add enough water through the filter to make the filtrate measure 16 fluidounces.

Instead of using fluid extract of ginger for this preparation, a corresponding amount of soluble essence may be employed.

The liquid should be tinted with caramel.

II.

Ginger, coarse powder	av.oz. 12
Lemon peel, fresh, cut fine	av.oz. 4
Capsicum, powder	av.oz. 1
Alcohol	fl.oz. 32

Mix, macerate for 14 days, agitating occasionally, and filter.

III.

Jamaica ginger, coarse powder	av.oz. 4
Mace, powder	av.oz. ½
Canada snakeroot, coarse powder	gr. 60
Oil of lemon	fl.dr. 1
Alcohol	fl.oz. 12
Water	fl.oz. 4
Magnesium carbonate or purified talcum	av.oz. 1

Mix the first four ingredients, and make 16 fluidounces of tincture with the alcohol and water, by percolation. Dissolve the oil of lemon in a small quantity of alcohol, rub with the magnesia or talcum, add gradually with constant trituration the tincture, and filter.

The extract may be fortified by adding 4 av. ounces of powdered grains of paradise to the ginger, etc., of the above before extraction with alcohol and water.

IV.

Capsicum, coarse powder....av. oz.	8
Water.....pints	6
Essence of ginger.....fl.oz.	8
Diluted alcohol.....fl.oz.	7
Vanilla extract.....fl.oz.	2
Oil of lemon.....drops	20
Caramel.....fl.oz.	1

Boil the capsicum with the water for 3 hours, occasionally replacing the water lost by evaporation, filter, concentrate the filtrate on a water-bath to the consistency of a thin extract, add the remaining ingredients, and filter.

V.

Jamaica ginger, powder.....av.oz.	4
Capsicum.....gr.	60
Potassium bicarbonate.....gr.	90
Diluted alcohol enough to make fl.oz.	16

Dissolve the potassium bicarbonate in some of the menstruum and percolate the mixed drugs with this liquid.

VI.

Jamaica ginger, ground.....av.oz.	12
Lemon peel, fresh, cut fine...av.oz.	2
Capsicum, powder.....av.oz.	1
Calcined magnesia.....av.oz.	1
Alcohol,	
Water.....of each, sufficient	

Extract the mixed ginger and capsicum by percolation so as to obtain 16 fluidounces of tincture. To the latter add the magnesia and 12 fluidounces of water, set the mixture aside for 24 hours, shaking vigorously from time to time, then filter, and pass through the filter enough of a mixture of 2 volumes of alcohol and 1 of water to make the filtrate measure 32 fluidounces. In the latter macerate the lemon peel for 7 days, and again filter.

VII. A ginger ale extract may be prepared without capsicum by following the formula above, omitting the capsicum and increasing the ginger to 16 fluidounces.

VIII.

Jamaica ginger, fine powder..av.oz.	16
Oil of lemon.....fl.dr.	2
Oil of orange.....m.	45
Oil of pimento.....drops	20
Magnesium carbonate.....av.oz.	1
Sodium carbonate, pure.....gr.	120
Caramel.....fl.dr.	4
Water.....fl.oz.	16
Alcohol.....sufficient	

Extract the ginger in the usual way by slow percolation with alcohol, reserving the first 16 fluidounces of percolate, continuing percolation with the same menstruum until the drug is exhausted. Concentrate the weak percolate by distilling off the alcohol until 4 fluidounces of liquid remain. Mix this liquid with the reserve percolate and add the oils.

Dissolve the sodium carbonate in the water, rub with the magnesium carbonate, and add the caramel and then the previous liquid. Allow the whole to stand for several days, agitating frequently, and then filter.

IX.

Ginger, powder.....av.oz.	8
Capsicum, powder.....av.oz.	½
Cardamom, powder.....gr.	60
Oil of lemon.....fl.dr.	2
Diluted alcohol.....sufficient	

Extract the drugs with the diluted alcohol so as to obtain 20 fluidounces of product, and in this dissolve the oil.

X.

Cinnamon, coarse powder.....gr.	240
Cloves, coarse powder.....gr.	90
Cardamom, coarse powder.....gr.	120
Essence of ginger.....fl.oz.	16

Mix, macerate for 4 days, agitating frequently, filter, and color with caramel.

XI. Ginger-ale extracts are also made according to numerous other formulas; some of them specify ingredients besides those mentioned in the preceding formulas, such as cinnamon, nutmeg, coriander, even ambergris and musk; also œnanthic ether, acetic ether, rose essence, pineapple essence, etc. Sometimes they are made by distillation, using the same ingredients as are employed for making those prepared without distilla-

tion. Belfast ginger ale has been said to be prepared from ginger, citric acid, rose essence, and œnanthic ether, and perhaps also lime juice. This formula has also been offered for Belfast ginger-ale extract:

Ginger, powder	av.oz.	6
Orange peel, recently dried and ground	av.oz.	2½
Nutmeg, grated	gr.	280
Ceylon cinnamon	gr.	280
Vanilla, reduced to powder	gr.	140
Alcohol	enough to make fl.oz.	16

Extract in the usual manner. Capsicum may be added if desired.

Ginger Champagne Extract.

Ginger essence	fl.oz.	4
Lemon essence	fl.oz.	1
Orange essence	fl.oz.	1
Solution of citric acid	fl.oz.	4
Tincture of quillaja	floz.	1
Caramel	fl.oz.	1
Water	enough to make fl.oz.	16

Ginger Tonic Extract.

Ginger essence	fl.oz.	5
Glycerite of hydrastis	fl.dr.	4
Compound tincture of gentian	enough to make fl.oz.	16

Mix, allow to stand for several days and filter.

Gooseberry Essence or Extract. (Gooseberry Ether.)

I.

Acetic aldehyde	fl.dr.	1
Benzoic ether	fl.dr.	1
Œnanthic ether	fl.dr.	1
Acetic ether	fl.dr.	5
Saturated alcoholic solution of benzoic acid	fl.dr.	1
Saturated alcoholic solution of succinic acid	fl.dr.	1
Saturated alcoholic solution of tartaric acid	fl.dr.	5
Alcohol, deodorized	enough to make fl.oz.	16

II.

Acetic ether	fl.dr.	12
Benzoic ether	fl.dr.	2
Œnanthic ether	fl.dr.	1
Succinic ether	fl.dr.	1
Acetic aldehyde	fl.dr.	1
Glycerin	fl.oz.	2
Alcohol, deodorized	enough to make fl.oz.	12

Grape Essence or Extract. (Grape Ether.)

I.

Chloroform	fl.dr.	2
Acetic aldehyde	fl.dr.	2
Formic ether	fl.dr.	2
Œnanthic ether	fl.dr.	10
Oil of wintergreen	fl.dr.	1
Saturated alcoholic solution of succinic acid	fl.dr.	3
Saturated alcoholic solution of tartaric acid	fl.dr.	5
Glycerin	fl.dr.	10
Alcohol, deodorized	enough to make fl.oz	16

This may be colored with grape juice, or it may be tinted purple by the use of red and blue colors.

II.

Œnanthic ether	fl.oz.	1
Formic ether	fl.dr.	1
Acetic aldehyde	fl.dr.	1
Grape juice	fl.oz.	4
Glycerin	fl.oz.	2
Alcohol, deodorized	enough to make fl.oz.	16

III.

Almond Essence	fl.oz.	2½
Œnanthic ether	m.	40
Butyric ether	fl.dr.	2
Acetic ether	fl.dr.	4
Grape juice	fl.oz.	8
Water	fl.oz.	2
Alcohol, deodorized	enough to make fl.oz.	16

The extract may be named according to the grape juice employed in either this or the preceding formula; if Catawba grape juice be employed, the product is Catawba grape extract.

Grenadine Essence or Extract.

Oil of cloves	drops	6
Oil of orange peel	drops	18
Tincture of ginger	fl.dr.	1
Vanilla extract	fl.dr.	1½
Diluted phosphoric acid	fl.dr.	4
Maraschino liqueur	fl.oz.	2
Tincture of cochineal	fl.oz.	2
Distilled water	fl.oz.	2
Alcohol	enough to make fl.oz.	16

Hop Ale Essence or Extract. (Hop Tonic Extract.)

Hops, fresh	av.oz.	4
Quassia, coarse powder	av.oz.	2
Alcohol	fl.oz.	6
Water		sufficient

Mix the hops and quassia, pour on 12 fluidounces of boiling water, set aside for several hours, agitating occasionally, then add the alcohol, macerate for several days, stirring from time to time, and filter, adding through the filter enough water to make the filtrate measure 16 fluidounces.

Hop Malt Extract.

Fluid extract of hops	fl.oz. 4
Extract of malt (thick or thin)	fl.oz. 12

Hot Tom Extract.

Gentian	av.oz. 1½
Ginger	gr. 160
Sweet orange peel, recent, dried	gr. 160
Capsicum	gr. 80
Spirit of nitrous ether	fl.dr. 3
Alcohol, Water	of each, sufficient

Mix the gentian, ginger, orange peel and capsicum, reduce to moderately fine powder, extract by percolation with a mixture of 1 volume of alcohol and 2 of water so as to obtain 16 fluidounces of product, and to the latter add the spirit.

Kola Extract.

For kola extract may be used the regular fluid extract, or the latter may be flavored with lemon and vanilla extracts.

Lemon Essence or Extract.

A well-known peculiarity of oil of lemon, the flavoring principle of this essence, is the tendency speedily to acquire a terebinthinate (turpentine-like) odor and taste. Essence made with such a deteriorated oil will naturally be very acrid and disagreeable. Only a fresh, sweet oil should be employed. If it becomes necessary to keep some oil on hand, it may be preserved in small, well-stoppered bottles in a cool, dark place. A very common and very satisfactory method of preservation is to add about an equal volume of alcohol (best deodorized alcohol or cologne spirit only should be used). In using such a diluted oil, the container should be well shaken and double the amount of oil employed as is specified in the recipe.

I.

Oil of lemon, fresh	fl.dr. 6½
Lemon peel, freshly grated	gr. 380
Alcohol, deodorized, enough to make	fl.oz. 16

Dissolve the oil in 14 fluidounces of alcohol, add the lemon peel, macerate for 24 hours, filter, and add the remainder of the alcohol through the filter.

This is the spirit of lemon of the U. S. Pharmacopœia.

II.

Lemon peel	av.oz. 2
Oil of lemon, fresh	fl.oz. 1
Alcohol, deodorized	fl.oz. 12
Water	fl oz. 4

Mix, macerate for 7 days, agitating occasionally, and filter.

Only the yellow portion of the fresh lemon peel should be used; it should be cut into thin slices.

III.

Oil of lemon, fresh	fl.dr. 5
Magnesium carbonate or purified talcum	av.oz. ¾
Alcohol, deodorized	fl.oz. 6
Water, enough to make	fl.oz. 16

Dissolve the oil in the alcohol, and rub with the magnesium carbonate in a mortar; to this add enough water to make 16 fluidounces; macerate one week or more, shaking every day. Filter through paper, adding enough water to make 16 fluidounces. Color yellow by macerating for a couple of days with a small quantity of fresh lemon peel, or by adding tincture of fustic, saffron or turmeric.

IV.

Oil of lemon	fl.dr. 4
Alcohol, deodorized	fl.oz. 16
Tincture of turmeric	sufficient to color

V.

Oil of lemon	fl.oz. 1
Pumice, powder	av.oz. 1
Glycerin, Alcohol, deodorized, Water	of each, sufficient

Mix the oil with 3 fluidounces of alcohol and 4 fluidounces of glycerin in a quart bottle, add the pumice, previously well washed with water, incorporate the whole thoroughly by agitation and place in a water-bath for several hours, shaking frequently. Then add 8 fluidounces of water in portions of 2 fluidounces shaking thoroughly after each addition. Keep the mixture in a warm place for 24 hours more, finally filter, and add enough of a mixture of alcohol, glycerin and water

in the above proportions to make 16 fluidounces.

Color yellow, if desired, like No. III.

VI. Instead of using oil of lemon alone in making this extract, the oil may be mixed with citral, which is the odorous constituent of the oil. If the oil be mixed with citral in the proportion of 288 grains of the latter to 8 fluidounces of the former and to the mixture be added 8 fluidounces of alcohol, the product will be equal in flavoring strength to ordinary oil of lemon. The advantage of using such a mixture is that it is soluble in weak alcohol, and does not so speedily acquire a terbinthinate flavor.

VII.

Oil of lemon	fl.oz. 1
Oil of lemon grass	drops 8
Lemon peel, fresh and grated	av.oz. ½
Alcohol, deodorized	fl.oz. 14
Water	fl.oz. 2

Mix, macerate for several days, agitating occasionally and filter.

Lemon Champagne Extract. (Champagne Lemonade Extract.)

Œnanthic ether	drops 2
Oil of celery No. II	drops 2
Pineapple essence	fl.dr. 1
Vanilla extract	fl.dr. 1
Peru balsam	gr. 5
Elder flowers, ground	av.oz. ¾
Solution of citric acid	fl.oz. 2
Alcohol, deodorized enough to make	fl.oz. 16

Mix the various substances enumerated with 14 fluidounces of alcohol, macerate for several days, agitating occasionally, filter, and add through the filter enough alcohol to make the filtrate measure 16 fluidounces.

The liquid may be tinted yellow, or it may be tinted with huckleberry juice.

Lime Essence. (Lime Fruit Extract.)

Oil of limes	fl.oz. ½
Alcohol	fl.oz. 15½

Mace Essence or Extract.

I.

Oil of mace, essential	fl.dr. 4
Alcohol	fl.oz. 15½

This may be tinted by macerating with a small amount of powdered mace.

II.

Mace, moderately fine powder	av.oz. 3
Alcohol, deodorized	fl.oz. 16

Macerate for 14 days, agitating frequently, express and filter.

Malt Extract.

There are several varieties of so-called malt extract, many of which are merely beers, or flavored beers. Two varieties only of malt extract possess any real value, and both are recognized by the National Formulary, the one being frequently known as the "thick" extract, the other as "liquid" extract. The former is prepared by extraction of malt with water, the liquid obtained being evaporated in vacuo to thick consistence. The "liquid" extract is prepared by extracting the malt by percolation with a mixture of alcohol and water. The "thick" extract is most generally employed, and is the kind intended in the formulas in this work unless the other kind is specified.

Mead Extract or Essence. (New Orleans Mead Extract.)

I.

Oil of lemon	fl.dr. 4
Oil of sassafras	fl.dr. 1
Oil of cloves	m. 45
Oil of wintergreen	drops 15
Oil of pimento	drops 15
Oil of cinnamon	drops 10
Caramel	fl.dr. 4
Magnesium carbonate or purified talcum	av.oz. 1
Alcohol, deodorized	fl.oz. 18
Water enough to make	fl.oz. 32

Dissolve tho oils in the alcohol, rub the magnesium or talcum with some of the water, add the caramel, then the alcoholic solution, then the remainder of the water, set aside for several days, agitating occasionally, and filter.

II.

Oil of sassafras	drops 20
Oil of cloves	drops 20
Oil of nutmeg	drops 20
Oil of pimento	drops 10
Oil of coriander	drops 10
Oil of cinnamon	drops 5
Oil of lemon	fl.dr. 2
Extract of vanilla	fl.oz. 4
Alcohol, deodorized	fl.oz. 8
Water	fl.oz. 4
Magnesium carbonate or purified talcum	av.oz. ½

Mix the oils, dissolve in the alcohol, add the vanilla extract and water, rub with the magnesium or talcum, and filter.

III.

Oil of lemon	fl.dr.	2
Oil of nutmeg, essential	fl dr.	2
Oil of cloves	fl.dr.	1
Oil of coriander	m.	30
Alcohol, deodorized	fl.oz.	12
Water	fl.oz.	4
Magnesium carbonate or purified talcum	av.oz.	1

Dissolve the oils in a part of the alcohol (2 or 3 fluidounces), rub with the magnesium or talcum, add the remainder of the alcohol previously mixed with the water, and filter, adding through the filter a sufficient quantity of the diluted alcohol (3 volumes of alcohol to 1 of water) to bring to the measure of 16 fluidounces.

IV.

Oil of coriander	drops	15
Oil of cloves	m.	30
Oil of lemon	fl.dr.	1
Oil of nutmeg, essential	fl.dr.	1
Alcohol, deodorized	fl.oz.	12
Sugar	av.oz.	4
Water	fl.oz.	16
Calcium phosphate	av.oz.	1

Dissolve the oils in the alcohol and the sugar in the water, mix the solutions, shake with the calcium phosphate, and filter.

V.

Cloves	av.oz.	1¾
Cinnamon	av.oz.	1¾
Jamaica ginger	av.oz.	1¾
Nutmeg	av.oz.	1¾
Tonka	av.oz.	½
Mace	av.oz.	½
Sassafras	av.oz.	¼
Diluted alcohol	sufficient	

Mix the drugs, grind to tolerably fine powder, and percolate in the usual way with diluted alcohol to make 32 fluidounces of tincture.

VI.

Nutmeg	gr.	30
Black pepper	gr.	30
Sassafras bark	gr.	120
Pimento	av.oz.	½
Cloves	av.oz.	½
Cinnamon	av.oz.	½
Ginger	av.oz.	1
Soap bark	av.oz.	1
Sugar	av.lb.	4
Orange essence	fl.dr.	2
Lemon essence	fl.dr.	4
Vanilla extract	fl.dr.	5
Water	sufficient	

Reduce the drugs to coarse powder, boil with 32 fluidounces of water for 10 minutes and filter. Boil the drugs with more water for a few minutes, filter again, and add enough water through the filter, if necessary, to make 32 fluidounces of filtrate. In the latter dissolve the sugar, strain and add the essences.

VII.

Sassafras	av.oz.	1
Yellow dock	av.oz.	1
Pimento	av.oz.	1
Wintergreen	av.oz.	1
Wild cherry	av.oz.	½
Coriander	av.oz.	½
Hops	av.oz.	¼
Alcohol, Water	of each, sufficient	

Mix the drugs, reduce to fine powder, and extract by percolation with a mixture of 3 volumes of alcohol and 5 of water so as to obtain 16 fluidounces of product.

VIII.

Sarsaparilla	av.oz.	5
Sassafras	av.oz.	1½
Vanilla, second quality	av.oz.	1
Ginger	av.oz.	½
Cloves	av.oz.	½
Pimento	av.oz.	½
Oil of lemon	drops	15
Oil of wintergreen	drops	8
Oil of sassafras	drops	4
Diluted alcohol, enough to make	fl.oz.	32

Mix the solids, reduce to powder, add the oils, extract with menstruum, and finally color the product strongly with caramel.

IX.

Jamaica ginger	av.oz.	2
Coriander	av.oz.	2
Pimento	av.oz.	½
Cloves	av.oz.	½
Nutmeg	av.oz.	¼
Cinnamon water	fl.oz.	4
Orange flower water	fl.oz.	½
Alcohol	fl.oz.	4
Diluted alcohol, enough to make	fl.oz.	16

Mix the solids, reduce to coarse powder, macerate with the alcohol and water mixed for 24 hours, pack in a percolator, and percolate slowly; when the liquid has drained add enough diluted alcohol through the percolator to make the percolate measure 16 fluidounces.

Mead, Excelsior, Extract.

Mead extract	fl.oz.	8
Strawberry or raspberry juice	fl.oz.	6
Compound fluid extract of sarsaparilla, for syrup	fl.oz.	2

Mead, French, Extract.

Aniseed	gr.	120
Nutmeg	gr.	120
Cloves	gr.	60
Ginger, Jamaica	gr.	30
Mace	gr.	30
Cinnamon	gr.	30
Pimento	gr.	15
Oil of wintergreen	drops	4
Oil of sassafras	drops	4
Diluted alcohol, enough to make	fl.oz.	16

Reduce the solids to fine powder, mix with the oils, and extract by percolation with the diluted alcohol.

Mead, New Orleans, Extract.

See "Mead Extract."

Mead, Washington, Extract.

Sarsaparilla	av.oz.	3
Licorice	av.oz.	1½
Ginger	av.oz.	1¼
Cinnamon	av.oz.	1¼
Coriander	av.oz.	½
Mace	av.oz.	½
Anise	av.oz.	¼
Diluted alcohol		sufficient

Mix the solids, reduce to fine powder, and extract by percolation so as to obtain 32 fluidounces of product

Melon Essence or Extract. (Melon Ether.)

I.

Acetic aldehyde	fl.dr.	2
Formic ether	fl.dr.	1
Butyric ether	fl.dr	4
Benzoic ether	fl.dr.	5
Sebacic ether	fl.dr.	10
Glycerin	fl.dr.	4
Alcohol, deodorized, enough to make	fl.oz.	16

II.

Acetic aldehyde	fl.dr.	2½
Formic ether	fl.dr.	1¼
Butyric ether	fl.dr.	5
Valerianic ether	fl.dr.	6
Sebacic ether	fl.dr.	10
Alcohol, deodorized, enough to make	fl.oz.	16

Milk Shake Extract.

Vanilla extract	fl.oz.	2
Pineapple juice	fl.oz.	14

Mustard Essence or Extract.

Oil of mustard	fl.dr.	1
Alcohol	fl.oz.	16

Nectarine or Nectar Essence or Extract.

I.

Lemon essence	fl.oz.	4
Orange essence	fl.oz.	4
Vanilla extract	fl.oz.	4
Almond essence	fl.oz.	2
Rose essence	fl.oz.	2
Cochineal color or tincture of cudbear...sufficient to color light red		

The proportion of the ingredients of this essence may be varied at will.

II.

Butyric ether	fl.dr.	4
Acetic ether	fl.dr.	4
Œnanthic ether	fl.dr.	4
Formic ether	fl.dr.	4
Valerianic ether	fl.dr.	4
Sebacic ether	fl.dr.	1
Acetic aldehyde	fl.dr.	1
Glycerin	fl.oz.	2
Alcohol, deodorized	fl.oz.	12

Color like the preceding.

III.

Vanilla extract	fl.oz.	4
Lemon essence	fl.oz.	4
Pineapple essence	fl.oz.	2

Color like the preceding.

IV.

Lemon essence, No. 1	fl.oz.	6
Orange essence, No. 1	fl.oz.	8
Oil of bitter almonds (deprived of hydrocyanic acid)	drops	20
Oil of rose	drops	8
Oil of neroli petale	drops	8
Alcohol, deodorized, enough to make	fl.oz.	16

Nerve Food Extract.

I.

Compound tincture of gentian	fl.oz.	5
Sarsaparilla essence	fl.oz.	3
Caramel	fl.oz.	3
Water	fl.oz.	5

Mix well. To make the syrup, add 1 to 2 fluidounces to 1 quart of plain syrup. The above is to be well shaken before use.

II.

Sarsaparilla essence	fl.oz.	1½
Fluid extract of gentian	fl.oz.	1½
Caramel	fl.oz.	1
Compound syrup of sarsaparilla	fl.oz.	12

Make the syrup by adding about 4 fluidounces to enough plain syrup to make one quart.

Nerve Tonic Extract.

Use for this nerve food extract, tonic extract or tonic beer extract.

Essence or Extract of Nutmeg.

I.

Nutmegs, grated	av.oz.	½
Oil of nutmeg, volatile	fl.dr.	1
Diluted alcohol	fl.oz.	16

Mix, macerate for 7 days, agitating frequently, and filter.

II.

Oil of nutmeg, volatile	fl.dr.	2
Magnesium carbonate or purified talcum	av.oz.	½
Alcohol, deodorized	fl.oz.	8
Water	fl.oz.	8

Mix the oil and alcohol, add the water and magnesium carbonate, and filter.

III.

Oil of nutmeg, volatile	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Orange Essence or Extract.

The remarks relative to oil of lemon under "Lemon Essence or Extract," will apply with equal force to oil of orange, the main ingredient of orange extract. This oil should be used only in a fresh, sweet condition, and may be preserved in small, well-stoppered bottles in a cool, dark place, or by the addition of alcohol.

Oils of both bitter and sweet orange are used, the former being preferred on account of its more delicate flavor.

I.

Orange peel, yellow portion, fresh, cut thin or grated	av.oz.	2
Oil of orange peel, fresh	fl.dr.	4
Alcohol, deodorized	fl.oz.	12
Water	fl.oz.	4

Mix, macerate for 7 days, agitating frequently, and filter.

II.

Oil of orange peel, fresh	fl.dr.	4
Alcohol	fl.oz.	8
Water, distilled	fl.oz.	8

Mix the oil and alcohol, add the water, and filter.

This may be colored with turmeric tincture or a mixture of turmeric and cochineal coloring, using only trifling amounts of each.

III.

Oil of orange	fl.dr.	4
Alcohol, deodorized	fl.oz.	16
Tincture of turmeric, sufficient to color		

Orange Nectar Extract.

Orange essence	fl.oz.	8
Pineapple essence	fl.oz.	4
Vanilla extract	fl.oz.	4

Orgeat Essence or Extract.

I.

Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	2
Acetic ether	fl.dr.	2
Butyric ether	fl.dr.	4
Stronger tincture of orris	fl.oz.	7½
Alcohol, deodorized enough to make	fl.oz.	16

II.

Almond essence	fl.oz.	3
Orange essence	fl.oz.	12

Ottawa Beer Extract. (Ottawa or Otaki Extract.)

See "Root Beer Extract, Ottawa."

Parsley Essence or Extract.

Oil of parsley seed	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Peach Essence or Extract. (Peach Ether.)

I.

Acetic aldehyde	fl.dr.	2
Sebacic ether	fl.dr.	1
Acetic ether	fl.dr.	5
Formic ether	fl.dr.	5
Butyric ether	fl.dr.	5
Valerianic ether	fl.dr.	5
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	2
Amyl alcohol	fl.dr.	2
Glycerin	fl.dr.	5
Alcohol, deodorized	fl.oz.	12½

Color yellow with some yellow coloring.

II.

Peach pits, bruised	av.oz.	½
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	2
Diluted alcohol	fl.oz.	16

Macerate for 48 hours, and filter.

Tint slightly with yellow coloring.

III.

Acetic ether	fl.dr.	5
Butyric ether	fl.dr.	5
Amyl acetate	fl.dr.	5
Oil of wintergreen	m.	30 (or less)
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	2 or 3
Alcohol, deodorized enough to make	fl.oz.	16

Color with some yellow coloring.

IV.

Linalyl formate	m.	40
Amyl valerianate	fl.dr.	2½
Œnanthic ether	m.	40
Oil of rue, pure	drops	10
Weaker tincture of orris	fl.oz.	8
Chloroform	m.	40
Glycerin	fl.oz.	1
Diluted alcohol, enough to make	fl.oz.	16

Clarify by filtering through purified talcum.

V. Quite frequently simply almond essence is dispensed for it. A small amount of acetic ether may be added to this.

Pear Essence or Extract. (Pear Ether.)

I.

Acetic ether	fl.dr.	5
Amyl acetate	fl.dr.	2
Glycerin	fl.dr.	2
Alcohol, deodorized, enough to make	fl.oz.	16

Color yellow with some suitable coloring.

II.

Amyl acetate	fl.oz.	2
Acetic ether	fl.dr.	1 or 1½
Alcohol, deodorized	fl.oz.	12
Water	fl.oz.	2.

Color like the preceding.

III.

Acetic ether	fl.dr.	6
Amyl acetate	fl.dr.	12
Glycerin	fl.dr.	12
Alcohol, deodorized, enough to make	fl.oz.	16

Pear Champagne Extract.

Lemon essence	fl.oz.	4
Pear essence	fl.oz.	2
Solution of citric acid	fl.oz.	8
Tincture of quillaja	fl.oz.	1
Caramel	fl oz.	1

Pepper Essence or Extract (Black).

Black pepper, powder	av.oz.	2
Alcohol		sufficient

Extract the pepper by slow percolation so as to obtain 16 fluidounces of product. If desired, the pepper may be increased and the alcohol replaced by diluted alcohol. The alcohol will, however, make a superior product. The pepper must be absolutely pure, and should have been recently reduced to powder.

Peppermint Essence. (Spirit of Peppermint.)

Oil of peppermint	fl.oz.	1½
Peppermint, broken or bruised	gr.	75
Alcohol, enough to make	fl.oz.	16

Mix, macerate for 24 hours, and filter.—U. S. P.

Peppermint Essence. (For saloon use.)

Oil of peppermint	fl.oz.	2¼
Alcohol	fl.oz.	48
Water	fl.oz.	12
Glycerin	fl oz.	1
Magnesium carbonate, powder, av.oz.		½
Curcuma, powder	gr.	60

Triturate the water with the magnesium carbonate to a smooth paste, add the oil previously dissolved in the alcohol, add the glycerin and curcuma, macerate for a week, occasionally agitating, and filter.

Peruvian Beer Extract. (Peruvian Extract.)

Fluid extract of sarsaparilla	fl.oz.	2
Oil of nutmeg	fl.dr.	2
Oil of lemon	fl.dr.	1
Oil of sassafras	fl.dr.	1
Oil of wintergreen	m.	45
Oil of hemlock or spruce, pure	m.	30
Diluted alcohol	fl.oz.	16

Dissolve the oils in the diluted alcohol, add the fluid extract, filter through purified talcum until clear, and color with caramel.

This may also be prepared by adding to the above some fluid extract of cinchona; it is, however, usually now prepared without the latter. The fluid extract, if used, may be added to root beer, tonic beer, or sarsaparilla extract instead of to the preceding mixture.

Pimento Essence or Extract.

Oil of pimento	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Pineapple Essence or Extract. (Pineapple Ether.)

I.

Chloroform	fl.dr.	1
Acetic aldehyde	fl.dr.	1
Amyl butyrate	fl.dr.	10
Glycerin	fl.dr.	4
Alcohol, deodorized, enough to make	fl.oz.	16

This mixture may be colored yellow, if desired, with some suitable yellow coloring.

II.

Butyric ether	fl.oz.	1
Alcohol, deodorized	fl.oz.	14
Water	fl.oz.	1
Citric acid	gr.	60

The last ingredient may be omitted. The mixture may be colored like the preceding.

III.

Acetic aldehyde	fl.dr.	1¼
Chloroform	fl.dr.	1¼
Butyric ether	fl.dr.	6
Amyl butyrate	fl.dr.	12
Glycerin	fl.dr.	4
Alcohol, deodorized ..... enough to make	fl.oz.	16

Color like the preceding.

IV.

Oil of lemon	fl.dr.	1
Butyric ether	fl.dr.	2
Acetic ether	fl.oz.	1
Spirit of nitrous ether	fl.dr.	4
Glycerin	fl.oz.	1
Alcohol	fl.oz.	8
Water ..... enough to make	fl.oz.	16

Color like the preceding.

Pineapple Cider Extract.

Orange essence	fl.oz.	4
Pineapple essence	fl.oz.	2
Solution of citric acid	fl.oz.	8
Tincture of quillaja	fl.oz.	1
Caramel	fl.oz.	1

Pistachio Extract.

Pistachio nuts, crushed	av.oz.	4
Cinnamon, bruised	gr.	60
Cloves, bruised	gr.	60
Lemon peel	a few slices	
Diluted alcohol	fl.oz.	16

Macerate for 7 days, agitating occasionally, and filter.

Plum Essence or Extract. (Plum Ether.)

Acetic aldehyde	fl.dr.	5
Acetic ether	fl.dr.	5
Butyric ether	fl.dr.	2
Formic ether	fl.dr.	1
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	1
Glycerin	fl.oz.	1
Alcohol, deodorized ..... enough to make	fl.oz.	16

Port Wine Essence.

Acetic ether	fl.dr.	6
Grape essence	fl.oz.	3
Vanilla extract	fl.oz.	3
Raspberry essence	fl.oz.	6
Tincture of kino	fl.oz.	3

Quince Essence or Extract. (Quince Ether.)

I.

Œnanthic ether	fl.oz.	1
Diluted alcohol	fl.oz.	16

II.

Acetic aldehyde	fl.dr.	1½
Chloroform	fl.dr.	1½
Œnanthic ether	fl.oz.	1
Glycerin	fl.oz.	1
Alcohol, deodorized ..... enough to make	fl.oz.	16

III.

Linalyl formate	fl.dr.	½
Œnanthic ether	fl.dr.	4
Weaker tincture of orris	fl.oz.	8
Glycerin	fl.oz.	1
Diluted alcohol, enough to make	fl.oz.	16

Filter through purified talcum to clarify.

Raisin Extract.

Raisins	av.oz.	8
Diluted alcohol	fl.oz.	16
Grape essence	drops	20
Pineapple essence	drops	20
Œnanthic ether	drop	1

Contuse the raisins, macerate for several days, express, filter, and add the remaining ingredients.

This is used in some other extracts, etc.

Raspberry Essence or Extract. (Raspberry Ether.)

I.

Nitrous ether	fl.dr.	1
Acetic aldehyde	fl.dr.	1
Formic ether	fl.dr.	1
Butyric ether	fl.dr.	1
Benzoic ether	fl.dr.	1
Œnanthic ether	fl.dr.	1
Sebacic ether	fl.dr.	1
Acetic ether	fl.dr.	5
Oil of wintergreen	fl.dr.	1
Amyl acetate	fl.dr.	1
Amyl butyrate	fl.dr.	1
Saturated alcoholic solution of tartaric acid	fl.dr.	5
Saturated alcoholic solution of succinic acid	fl.dr.	1
Glycerin	fl.dr.	4
Alcohol, deodorized ..... enough to make	fl.oz.	16

Color red with carmine solution or other suitable coloring.

The extract is improved by substituting weaker tincture of orris for a portion of the alcohol.

II.

Amyl butyrate	fl.dr.	1½
Amyl acetate	fl.dr.	12
Acetic ether	fl.dr.	1½
Tartaric acid	gr.	180
Glycerin	fl.dr.	6
Weaker tincture of orris	fl.oz.	2 or 3
Alcohol, deodorized, enough to make	fl.oz.	16

Color red like the preceding.

It may also be prepared by adding a small proportion of acetic ether to stronger tincture of orris.

III.

Acetic ether	fl.oz.	1
Butyric ether	fl.dr.	½
Spirit of nitrous ether	fl.dr.	4
Chloroform	fl.dr.	½
Glycerin	fl.oz.	1
Weaker tincture of orris	fl.oz.	3
Alcohol	fl.oz.	6
Water, enough to make	fl.oz.	16

Clarify by filtering through purified talcum.

Root Beer Extract.

I.

Oil of lemon	fl dr.	2
Oil of sassafras	fl.dr.	2
Oil of spruce	fl.dr.	2
Oil of wintergreen	fl dr.	1
Oil of nutmeg, essential	fl.dr.	1
Alcohol, deodorized	fl.oz.	12
Water	fl.oz.	4
Talcum, purified	av.oz.	2

Dissolve the oils in about 2 fluidounces of alcohol, triturate the solution with the talcum, add the remainder of the alcohol mixed with the water, and filter. Add through the filter enough of a mixture of 3 parts of alcohol to 1 of water to make 16 fluidounces.

II.

Sarsaparilla	av.oz.	3
Pipsissewa	av.oz.	3
Licorice root	av.oz.	3
Sassafras bark	av.oz.	3
Ginger	av.oz.	1
Oil of lemon	fl.dr.	2
Oil of sassafras	fl.dr.	2
Oil of spruce	fl.dr.	2
Oil of wintergreen	fl.dr.	1
Magnesium carbonate or purified talcum	av.oz.	½
Alcohol, Water, of each, sufficient		

Mix the drugs, reduce to coarse powder, and extract by percolation with a menstruum composed of 8 volumes of alcohol to 1 of water until 24 fluidounces of product are obtained.

Now triturate the oils with the magnesium or talcum, add a mixture of 6 fluidounces of alcohol and 2 of water, mix well, add the preceding tincture, and filter the whole.

III.

Fluid extract of false sarsaparilla (spikenard)	fl.dr.	12
Fluid extract of pipsissewa	fl.dr.	12
Fluid extract of wintergreen	fl.dr.	5
Fluid extract of licorice	fl.dr.	5
Oil of wintergreen	fl.dr.	1
Oil of sassafras	m.	30
Oil of cloves	m.	15
Alcohol	fl.oz.	12

IV.

Oil of wintergreen	fl.dr.	4
Oil of sassafras	fl.dr.	2
Oil of cloves	fl.dr.	1
Alcohol, deodorized	fl.oz.	4

V.

Sassafras	av.oz.	1
Yellow dock	av.oz.	1
Pimento	av.oz.	1
Wintergreen	av.oz.	1
Wild cherry bark	av.oz.	½
Coriander	av.oz.	½
Hops	av.oz.	½
Alcohol, Water, of each, sufficient		

Mix the drugs, reduce to powder, and percolate with a mixture of 3 volumes of alcohol and 5 of water so as to obtain 12 fluidounces of product.

VI.

Oil of sassafras	fl.dr.	4
Oil of wintergreen	fl.dr.	1½
Alcohol	fl.oz.	1½
Caramel	av.oz.	8
Water, enough to make	fl.oz.	16

Dissolve the oils in the alcohol before adding to the remaining ingredients.

A small amount of oil of anise may be added to the above.

VII. See also Root Beer (Ottawa) Extract, Root Beer (Columbian) Extract, Root Beer (Peruvian) Extract.

Root Beer (Columbian) Extract.

Fluid extract of sarsaparilla	fl.dr.	6
Fluid extract of dandelion	fl dr.	3
Oil of wintergreen	fl dr.	1
Oil of lemon	fl dr.	1
Oil of spruce (or hemlock, pure)	drops	30
Oil of nutmeg	drops	15
Oil of sassafras	drops	15
Oil of calamus	drops	5
Caramel	fl.dr.	2
Purified talcum	av.oz.	1
Alcohol		
Water, of each		sufficient

Dissolve the oils in the alcohol, add the talcum, shake well, add the fluid extracts, dissolve the caramel in the water, add this solution to the previous mixture, filter the whole, returning the first portions of filtrate, if not clear, to the filter, and finally pass enough diluted alcohol through the filter to make the filtrate measure 16 fluidounces.

Root Beer (Ottawa) Extract. (Otaki Beer Extract.)

I.

Tincture of ginger, U. S. P., or essence of ginger	fl.oz.	8
Oil of wintergreen	fl dr.	2
Oil of sassafras	fl.dr.	1
Fluid extract of dandelion	fl.oz.	1
Fluid extract of wild cherry	fl.oz.	1
Fluid extract of sarsaparilla	fl.oz.	1
Diluted alcohol, enough to make	fl.oz.	16

II.

Burdock root	av.oz.	4
Sarsaparilla	av.oz.	4
Sassafras	av.oz.	2
Dandelion	av.oz.	1½
Calamus	av.oz.	½
Caramel	fl.dr.	2
Oil of wintergreen	m.	30
Oil of sassafras	m.	30
Diluted alcohol	fl.oz.	16
Alcohol	fl oz.	2
Water		sufficient

Mix the drugs and grind to coarse powder, moisten with the diluted alcohol, macerate and pack in the percolator, and percolate with the remainder of the diluted alcohol and then with water until the drugs are exhausted. Reserve the first 28 fluidounces; evaporate the weak percolate to 4 fluidounces and add to the reserved portion. Dissolve the oils in the alcohol, add to the previous liquid, and filter, if necessary, through purified talcum or calcium phosphate.

Root Beer (Peruvian) Extract.

See "Peruvian Beer Extract."

Root Extract (Boston).

Any root-beer extract may be used for it.

Rose Essence or Extract.

Red rose petals	av.oz.	½
Oil of rose	drops	5
Alcohol, deodorized	fl.oz.	6
Water	fl.oz.	10

Dissolve the oil in the alcohol, add the water and rose petals, macerate for 7 days, agitating occasionally, and filter.

The amount of oil of rose may be increased if desired, or the mixture may be fortified by adding oil of rose geranium.

Rosemary Essence or Extract.

Oil of rosemary	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

Sage Essence or Extract.

Oil of sage	fl.dr.	4
Alcohol, deodorized	fl.oz.	15½

This mixture may be colored by macerating with sage leaves.

Sarine Extract.

Oil of sassafras	fl.oz.	½
Oil of lemon	fl.oz.	½
Fluid extract of sarsaparilla	fl.dr.	2
Fluid extract of licorice	fl.dr.	2
Fluid extract of dandelion	fl.dr.	2
Alcohol	fl.oz.	8
Water	enough to make fl.oz.	16

Sarsaparilla Essence or Extract. (Fluid Extract of Sarsaparilla for Soda.)

I.

Oil of wintergreen	fl.dr.	4
Oil of sassafras	fl.dr.	4
Alcohol, deodorized	fl.oz.	16

II.

Oil of wintergreen	fl.dr.	4
Oil of sassafras	fl.dr.	3
Oil of anise	fl.dr.	1
Alcohol, deodorized	fl.oz.	12
Water	enough to make fl.oz.	16

Dissolve the oils in the alcohol, and add the water.

III.

Oil of wintergreen	fl.dr.	2
Oil of anise	fl.dr.	2
Oil of sassafras	fl.dr.	3
Alcohol, deodorized	enough to make fl.oz.	16

IV.

Oil of wintergreen	fl.dr.	6
Oil of sassafras	fl.dr.	2
Oil of cassia	fl.dr.	1½
Oil of cloves	fl.dr.	1½
Oil of anise	fl.dr.	1½
Alcohol, deodorized enough to make	fl.oz.	16

Sassafras Essence or Extract.

Oil of sassafras	fl.oz.	1
Alcohol, deodorized	fl.oz.	15

This mixture may be tinted by macerating with coarsely powdered sassafras bark.

Sherbet Essence or Extract.

Vanilla extract	fl.oz.	6
Oil of orange	fl.dr.	3
Amyl acetate	fl.dr.	1
Oil of rose	drops	3
Alcohol, deodorized	fl.oz.	8

Sherry Wine Essence.

Œnanthic ether	fl.oz.	1
Orange essence	fl.oz.	1
Spirit of nitrous ether	fl.oz.	15

Spice Essence or Extract.

The following may be used for making an extract for flavoring soups, etc.:

I.

Black pepper, recently powdered	av.oz.	1
Pimento, recently powdered	av.oz.	½
Nutmeg, recently powdered	av.oz.	¼
Diluted alcohol or brandy		sufficient

Extract the mixed spices by slow percolation so as to obtain 16 fluidounces of product.

II. Any other mixture of spices may be substituted for the above if desired. The following may be used, for example: Thyme, sweet basil, sweet marjoram, and summer savory, each 1 av. ounce; celery seed, 60 gr., and diluted alcohol to make one pint.

III. These mixtures are also used under the name spice essences:

Orange peel, freshly dried	gr.	570
Mace	gr.	95
Cassia buds	gr.	95
Cloves	gr.	95
Alcohol		sufficient

Mix the solids, reduce to powder, and extract by percolation so as to obtain 16 fluidounces of product.

IV.

Cassia bark	gr.	135
Cloves	gr.	45
Cardamom	gr.	25
Mace	gr.	12
Alcohol enough to make	fl.oz.	16

Prepare like the preceding.

V.

Oil of cassia	fl.dr.	6
Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr.	3
Oil of cloves	fl.dr.	3
Oil of lemon	fl.dr.	1½
Oil of neroli bigarade	fl.dr.	1½
Alcohol	fl.oz.	12
Water enough to make	fl.oz	16

Clarify by filtering through purified talcum.

Soup Herbs Extract.

See "Spice Essence or Extract."

Spruce Essence.

This is a commercial article prepared by boiling the young branches of hemlock spruce with water, and evaporating the decoction to thick consistency.

Spruce Beer Extract. (Spruce Extract.)

Oil of hemlock, pure (oil of spruce)	fl.dr.	4
Oil of lemon	fl.dr.	1
Oil of wintergreen	m.	30
Oil of sassafras	m.	80
Magnesium carbonate or purified talcum	av.oz.	1
Alcohol, deodorized	fl.oz.	20
Water	fl.oz.	12

Dissolve the oils in the alcohol, triturate the magnesium or talcum with the water, add the alcoholic solution, let stand for several days, agitate occasionally and filter.

Strawberry Essence or Extract.
(Strawberry Ether.)

I.

Nitrous ether	fl.dr.	1
Formic ether	fl.dr.	1
Acetic ether	fl.dr.	5
Butyric ether	fl.dr.	5
Oil of wintergreen	fl.dr.	1
Amyl butyrate	fl.dr.	2
Amyl acetate	fl.dr.	3
Glycerin	fl.dr.	2
Alcohol, deodorized enough to make	fl.oz.	16

Color red with carmine solution or other suitable red coloring.

This extract may be improved by replacing a portion of the alcohol with weaker tincture of orris.

II.

Butyric ether	fl.oz.	1
Acetic ether	fl.oz.	1
Amyl acetate	fl.dr.	4½
Amyl butyrate	fl.dr.	3
Glycerin	fl.dr.	4
Oil of wintergreen	fl.dr.	½
Alcohol, deodorized ..... enough to make	fl.oz.	16

Color red like the preceding. It may also be improved like the preceding.

III.

Butyric ether	fl.dr.	4
Weaker tincture of orris	fl.oz.	16

Color red like the preceding.

IV.

Orris root, powder	av.oz.	¼
Acetic ether	fl.dr.	2¼
Butyric ether	fl.dr.	1¼
Diluted alcohol		sufficient

Percolate or macerate the orris with diluted alcohol so as to obtain 15 fluidounces of product, to which add the ethers, and color red like the preceding.

V.

Butyric ether	fl.dr.	4
Acetic ether	fl.dr.	4
Alcohol, deodorized	fl.oz.	15

VI.

Butyric ether	fl.dr.	6
Acetic ether	fl.dr.	6
Nitrous ether	fl.dr.	2½
Alcohol, deodorized ..... enough to make	fl.oz.	16

Color like any of the preceding.

Summer Savory Extract.

Summer savory, coarse powder	av.oz.	2
Diluted alcohol		sufficient

Extract the savory by percolation so as to obtain 16 fluidounces of product.

This is used for flavoring soups, etc.

Tea Extract.

Tea, best quality	av.oz.	16
Glycerin, Alcohol, Water	of each,	sufficient

Reduce the tea leaves to a fine powder; moisten with a mixture of 4 fluidounces each of glycerin and water and 8 fluidounces of alcohol, and pack in a glass percolator; pour on the remainder of the liquid, and macerate for 4 days; then proceed with the percolation, adding sufficient diluted alcohol until 12 fluidounces of percolate have been obtained. Add one half gallon of boiling water to the marc; macerate for 24 hours and express; evaporate the liquid obtained to 4 fluidounces; mix with the percolate and filter.

To make syrup for soda water, take 1 fluidounce of extract and 15 fluidounces of simple syrup.

Thyme Extract.

Prepare like summer savory extract. It is employed for similar purposes.

Tokay Lemonade Extract.

Tincture of St. John's wort	fl.oz.	8
Or		
Tincture of elder flowers	fl.oz.	4
Tonka essence	fl.dr.	6
Pimento essence	drops	10
Solution of citric acid	fl.oz.	4
Diluted alcohol, enough to make	fl.oz.	16

Color with some red coloring agent.

The tincture of St. John's wort may be made in the proportion of 3 av. ounces of fresh leaves to the pint; the tincture of elder flowers 1½ ounces to the pint, using in either instance diluted alcohol as a menstruum.

Tonic Extract. (Bitter Tonic Extract.)

Red cinchona	av.oz.	½
Coriander	av.oz.	¼
Canella	av.oz.	¼
Angelica	av.oz.	¼
Cinnamon	av.oz.	¼
Cardamom, deprived of the capsules	gr.	60
Cochineal	gr.	15
Cloves	gr.	8
Diluted alcohol, enough to make	fl.oz.	16

Bruise the coriander, cardamom and cloves, add the remaining solids, reduce the whole to fine powder, and extract by slow percolation so as to obtain 16 fluidounces of product.

This is to be used in making tonic syrup.

Tonic Beer Extract.

I.

Oil of wintergreen	fl.dr.	2
Oil of sassafras	fl.dr.	2
Oil of orange	fl.dr.	2
Oil of pimento	fl.dr.	1
Wintergreen leaves, coarse powder	av.oz.	½
Sassafras bark, coarse powder	av.oz.	½
Alcohol ..... enough to make	fl.oz.	16

Dissolve the oils in 12 fluidounces of alcohol, add the two powders, macerate for several days, agitating frequently, then filter, adding through the filter enough alcohol to make 16 fluidounces.

II.

Oil of sassafras	fl.dr.	2½
Oil of wintergreen	fl.dr.	2½
Oil of orange	fl.dr.	2½
Oil of cloves	drops	12
Oil of anise	drops	12
Diluted alcohol	fl.oz.	16

Clarify by filtering through purified talcum, and color with caramel.

Tonka Essence.

Tonka bean, bruised	av.oz.	4
Orris root, powder	av.oz.	½
Diluted alcohol	fl.oz.	16

Rub the tonka and orris together to fine powder, add to the alcohol and water, macerate for 14 days, agitating occasionally, and filter.

Vanilla Extract. (Tincture of Vanilla.)

This preparation may be prepared from the best quality of Mexican vanilla, from a mixture of Mexican with inferior vanillas, from inferior vanilla alone, or from a mixture of vanilla and tonka. "Vanilla extract" may even be prepared from tonka alone (see "Tonka Essence") or, finally, from vanillin, or a mixture of this with vanilla or with coumarin.

A large number of formulas are here given to enable the operator to select one which will best suit his purpose or ideas.

When prepared from vanilla bean, it may be said that the process of manufacture has less to do with the quality of a vanilla extract than, first, the quality of the bean employed and, next, the skill of the operator. Thirdly, it may be added, a vanilla extract greatly improves by aging. "The only requirements are cologne spirits, water, sugar, good beans, and time, especially the latter two." The value of glycerin, advised by some, is doubtful.

A very important point in the manufacture of vanilla extract is to obtain the bean in as fine a state of division as possible, to facilitate complete extraction. The drug should first be cut into small pieces by means of a shears or tobacco-knife, or a sausage machine; then it may be still further reduced by vigorous trituration in an iron mortar with rock candy, granulated sugar, clean, washed sand, or broken glass.

I.

Vanilla	av.oz.	1
Rock candy	av.oz.	2
Alcohol, deodorized	fl.oz.	9
Water	fl.oz.	7

Cut the vanilla in small pieces with a sharp knife or scissors, transfer to an iron mortar, and beat, with the rock candy, into a fine powder. The sugar should be added in divided portions. Place this in a bottle with the alcohol, allow to macerate, with occasional stirring, for 24 hours, then add the water and continue the maceration for 2 days, or as much longer as is convenient. Finally express and filter.

II.

Vanilla	av.oz.	4
Sugar, granulated	av.oz.	2
Absolute alcohol		sufficient

Cut the vanilla fine, triturate to fine powder with the sugar, macerate with the alcohol in a close vessel for 15 days, agitating occasionally, then filter, adding through the filter enough alcohol to make the filtrate measure 16 fluidounces.

III.

Vanilla, cut into small pieces and bruised	av.oz.	3
Sugar, granulated	av.oz.	6
Alcohol, deodorized, Water	of each,	sufficient

Mix alcohol and water in the proportion of 13 fluidounces of alcohol to 7 fluidounces of water. Macerate the vanilla in 17 fluidounces of this mixture for 12 hours, then drain off the liquid and set it aside. Transfer the vanilla to a mortar, beat it with 1½ av. ounces of sugar to a uniform powder. Then pack in a percolator in the following manner: First a layer of sugar, then uniform powder of vanilla and sugar, then a layer of sugar, etc. Pour upon it the reserved portion. When this has disappeared from the surface, gradually pour on menstruum, and continue the percolation until 32 fluidounces of tincture are obtained.

IV.

Vanilla, finely cut	av.oz.	6½
Potassium carbonate	gr.	24
Musk	gr.	5
Water, boiling	fl.oz.	5
Alcohol, deodorized	fl.oz.	25

To the vanilla beans and potassium carbonate add the boiling water, allow to cool, and add the alcohol. Then macerate for 14 days and filter.

The addition of a small amount of musk materially improves the flavor of vanilla extract. The musk may be reduced to 2 grains.

V.

Vanilla	av.oz.	1
Alcohol, deodorized, Water	of each,	sufficient

Mix the two liquids in the proportion of 5 fluidounces of the alcohol to 3 fluidounces of the water.

Cut the beans fine and triturate to a powder with some sugar, mix with 5 fluidounces of the dilute alcohol in a suitable water-bath apparatus, cover closely, and heat to not over 60 degrees C. for one hour. Then remove the heat, drain off the liquid, add 5 fluidounces more of the dilute alcohol, repeat the heating, drain off the liquid at the end of an hour, and then repeat the process a third time with the same amount of liquid. Put the beans in a percolator and pass about 2 fluidounces of the same menstruum through the drug, so as to remove nearly all extractive. Add the percolate to the liquids previously obtained, and filter the whole if necessary.

Suitable apparatus for this process would consist of a wide-mouth flask surmounted by a reflux (erect) condenser, as ignition of alcoholic vapors must be guarded against.

VI.

Vanilla	av.oz.	4
Sugar, crushed loaf	av.oz.	4
Diluted alcohol	fl.oz.	40
Alcohol, deodorized, Water	of each,	sufficient

Slit the vanilla pods from end to end, cut transversely into very small pieces, and triturate small quantities in an iron mortar with an equal amount of sugar until the whole is reduced to about No. 20 powder. Mix this with the diluted alcohol contained in a half-gallon jug, close the latter, place it in a water-bath resting upon folds of paper, and allow the mixture to digest for 2 hours at a temperature of 70 degrees C. The upper part of the jug should be kept cool by wrapping a towel around it and squeezing cold water upon it from time to time. Every 15 minutes the jug should be taken from the bath and thoroughly agitated. When digestion has been completed and the mixture has cooled, strain through muslin, pack the residue in a percolator, pour a mixture of 3 parts of alcohol and 1 of water upon the drug until the percolate and previous liquid shall measure 64 fluidounces, and finally filter the whole.

VII.

Vanilla	av.oz.	1
Tonka	av.oz.	2
Alcohol, deodorized	fl.oz.	32
Simple syrup	fl.oz.	8

Cut and bruise the vanilla, afterward adding and bruising the tonka; macerate for fourteen days in 16 fluidounces of the alcohol, with occasional agitation; pour off the clear liquid and set aside; pour the remaining alcohol on the magma, and heat by means of a water-bath to about 77 degrees C. in a closely covered vessel. Keep it at that temperature for two or three hours, then strain through flannel with slight pressure; mix the two portions of liquid and filter through felt. Lastly add the syrup. To render this tincture perfectly clear it may be treated with pulverized magnesium carbonate or purified talcum, using from ½ to 1 av. ounce to each pint.

VIII.

Vanilla	av.oz.	1
Tonka	av.oz.	2
Sugar	av.oz.	2
Alcohol, deodorized	fl.oz.	12
Water	fl.oz.	4

Cut the vanilla and tonka fine and pound in a mortar with the sugar until reduced to a powder. Macerate 24 hours with the alcohol, add the water, continue the maceration for several days or weeks, and filter. If a cheaper article is desired, increase the proportion of alcohol and water.

IX.

Vanillin	gr.	96
Alcohol, deodorized	fl.oz.	16

Mix and dissolve.

X.

Vanillin	gr. 20
Absolute alcohol	fl. oz. 9
Water	fl.oz. 7

Dissolve the vanillin in the alcohol, and add the water.

XI.

Vanillin	gr. 30
Alcohol, deodorized	fl.oz. 11
Water	fl.oz. 4
Syrup	fl.oz. 1

XII.

Vanillin	gr. 50
Glycerin	fl.oz. 2
Alcohol, deodorized	fl.oz. 16
Caramel	sufficient

Dissolve the vanillin in the alcohol, and add the glycerin and caramel.

XIII.

Vanillin	gr. 45
Coumarin	gr. 3
Alcohol, deodorized	fl.oz. 3
Glycerin	fl.oz. 2
Simple syrup	fl.oz. 2
Compound tincture of cudbear	fl.dr. 2
Water enough to make	fl.oz. 16

Dissolve the vanillin and coumarin in the alcohol, add the glycerin, syrup and tincture, and lastly enough water to make 16 fluid-ounces.

This is the compound tincture or compound essence of vanillin of the National Formulary.

XIV.

Vanillin	gr. 45
Coumarin	gr. 15
Glycerin	fl.oz. 1
Alcohol, deodorized	fl.oz. 8
Water enough to make	fl.oz. 32
Caramel sufficient, or about	fl.dr. ½

Prepare like the preceding.

XV. Extracts made with vanillin are cheap, but lack what is known as "body," while those made with the bean are usually too high-priced for general use. An effective compromise may be made by mixing, in about equal proportions, two extracts, one made from vanillin and the other from vanilla beans.

XVI. The following formula is of a kind which may be denominated a "beauty." It is an example of a formula which has actually been recommended and used:

Peru balsam	gr. 60
Oil of orange, fresh	fl.dr. ½
Orris root, powder	gr. 120
Tonka bean, powder	gr. 240
Tincture of castor	drops 15
Magnesium carbonate	gr. 180
Alcohol	fl.oz. 12
Water	fl.oz. 4

Dissolve the balsam and oil in 2 fluid-ounces of the alcohol, rub with the magnesia, and, adding the other ingredients, macerate the whole for 14 days in a warm place, color with caramel, and filter.

XVII. This formula is said to be in vogue in some wholesale grocery houses:

Vanillin	gr. 20
Coumarin	gr. 40
Benzoic acid	gr. 60
Glycerin	fl.oz. 4
Alcohol	fl.oz. 4
Water enough to make	fl.oz. 32

Dissolve, color with caramel and filter. Some add a small acetic extract of cloves and Peru balsam (Squibb's).

Violet Essence or Extract.

Ionone	gr. 20
Heliotropin	gr. 20
Oil of orris, concrete	gr. 2½
Oil of vetivert, best quality	gr. 2
Rose essence	fl.oz. 2¼
Cassie essence	fl.oz. 3½
Violet essence	fl.oz. 3½
Weaker tincture of orris	fl.oz. 6½
Glycerin enough to make	fl.oz. 16

The essences used for the above should be perfume essences made by extracting flower pomades with alcohol. The first washings (1 pound to the pint) should be employed. The pomade should be about a No. 30 or 36.

This extract may be colored green or blue, or be left uncolored, when it could be known as "Extract of White Violet."

Wild Cherry Essence or Extract.

See "Cherry Essence or Extract (Wild)."

Wintergreen Essence or Extract.

(Checkerberry or Teaberry Extract.)

Oil of wintergreen	fl.dr. 4
Alcohol, deodorized	fl.oz. 15½

This may be colored with solution of carmine or tincture of cudbear to a pale red tint.

Wormwood Extract.

Oil of wormwood	fl.oz. ½
Alcohol	fl.oz. 15½

CHAPTER VII.

FRUIT JUICES.

The following suggestions are offered for the benefit of those druggists and confectioners who, by reason of distance from distributing centers or for other reasons, prefer to make their own fruit juices instead of using the products of the manufacturers which are, in most cases, entirely satisfactory.

The fruit should be worked up while fresh, or before any decided change can have taken place in it, as any change will certainly be to the detriment of the product. In fruit which has been kept for some time, especially if in heap, and if of a succulent character, like strawberries, fermentation may take place in the interior of the heap. Such fermentation is especially apt to occur in warm weather.

The fruit should, therefore, be prepared for the separation of the juice without especial delay, the various steps in the operation being usually about as follows:

1. Preliminary treatment.
2. Reduction.
3. Fermentation.
4. Filtration.
5. Expression.
6. Bottling.

Preliminary Treatment.

This depends upon the fruit, some kinds not requiring preliminary treatment. Pineapples should first be carefully pared. Strawberries should be deprived of the calyces. Currants and cherries should be freed from stems. Preliminary treatment of other fruit will suggest itself readily enough. All fruit should, of course, be freed from dirt by careful washing.

Reduction.

The method of reduction depends on the character of the fruit. The pared pineapple should be grated. Soft, succulent fruit should be mashed to a pulp with a heavy, wooden pounder in a tub, using a clean wooden tub, or preferably a vessel with a porcelain lining. A fruit press like the "Enterprise" will probably be the most satisfactory for fruit reduction on a small scale. In large factories, other and varied methods are adopted. In reducing cherries, only the fruit may be mashed; if the flavor of the pits be desired, the stones and their contents should be crushed.

In obtaining fruit juices, contact with metals should, as a rule, be avoided; it should be an absolute rule that there be no contact with iron, tin, lead, copper, brass, or zinc.

It is advised that after washing currants, the seeds be removed before allowing fermentation to proceed. In making raspberry juice, either red or black raspberries may be employed; a mixture of the two will make a fine appearing product, and the fruit syrup will be of a handsome color.

Fermentation.

After reduction, the fruit, contained in a loosely-covered vessel, should be set aside in a place free from dust or vapors, at a temperature of from 15 to 20 degrees C. (59 to 68 degrees F.), in order that fermentation may proceed.

According to the kind of fruit, its degree of ripeness and the temperature, the fermentation of the juice may begin in a few hours, or after one, two or three days. In any case, the mixture should be well stirred at intervals of about two hours, the particles of fruit which float on top being pressed down into the juice which is at the bottom. If the stirring be neglected, the exposed portion may become covered with fungoid growth, or it may undergo acetous fermentation.

As a result of fermentation of the fruit, some alcohol is formed, which precipitates the gummy, pectinous and albuminous matters naturally present in fruit. Therefore, a test to determine if fermentation has proceeded far enough, is to mix a small portion of the filtered juice with half its volume of alcohol, when, if no cloudiness appears, the juice is ready for filtration. Some do not apply the alcohol test, but content themselves with taking up some of the upper stratum of the liquid in a silver spoon and observing if it be clear and bright.

Another result of fermentation is that a portion of the sugar is converted into alcohol and carbonic acid gas. The former causes the liquid to become of lower specific gravity (or thinner), and, therefore, the solid matter in suspension more easily and quickly subsides, and subsequent filtration will be more rapid and satisfactory.

The carbonic acid gas formed with the alcohol causes the mass to swell up, more and more at first, and subsequently it collapses and the evolution of gas becomes feeble. It is about this time that the fluid becomes brighter and answers the alcohol test, and it is at this time that filtration should be begun, as the gas still contained in the fluid and slowly evolved, will protect the fluid from the action of the atmosphere.

Sometimes it is recommended to hasten fermentation of the juice by adding 1 pound of granulated sugar or grape sugar to each 20 pints of juice before fermentation. Another recommendation is to add to the juice about 5 per cent of alcohol.

Although fermentation is recommended and described here, there are many operators who make fruit juices without fermentation, proceeding to expression and filtration immediately after reduction. Owing to the greater density of the unfermented juice, the latter is filtered with greater difficulty, and the prolonged exposure in a filter to the atmosphere may act injuriously.

In the main, it is true that fermentation properly conducted improves the product. Care should be taken, as stated, to avoid any secondary (such as acetous) fermentation by frequent stirring; the temperature should not be too high, and the fermentation should not be too long continued, as then there will be complete alcoholic fermentation, and the product will be a wine instead of a fruit juice.

Filtration.

The juice, having fermented for a sufficient length of time, is now ready for filtration. If the upper portion of the liquid be perfectly clear, or only contain matter that can be separated by skimming or straining, then this portion should be decanted or siphoned off, and skimmed or strained if necessary, much being gained thereby—first, in time, for the filtration is always tedious, and, second, prolonged exposure to the air, which may be prejudicial, is avoided.

The remainder of the mixture should then be freed from juice, first placing upon a strainer of thick flannel, and when as much fluid has been obtained as is possible by hand expression, the strainer and its contents should be put in a suitable press, the tincture press in vogue among pharmacists answering satisfactorily.

If no portion of clear liquid can be decanted or siphoned off, then all of the mixture must be poured upon the strainer and the residue therein should be treated as before.

Expression.

As stated, a tincture press will, in most instances, prove satisfactory for expression of the fruit after straining. If a larger press be necessary or desirable, any of the larger presses of the market may be employed.

The pressure of the press should be gradually increased, and after as much pressure has been applied as seems possible, it should be discontinued for a short time, and then it will be found that another half-turn or so can be given to the handle and some more juice can be expressed. It is surprising how much juice can be expressed by giving this occasional turn to the screw after the limit of pressure has apparently been attained.

As soon as possible filtration should be commenced, not waiting for the completion of expression. The juice should be filtered through large double sheets of gray filter paper. If quite a large quantity of juice is

to be filtered, the process may be expedited by dividing the liquid and filtering through several filters. Even if only tolerably small quantities of juice are undergoing preparation, the process should be hastened in every possible manner so as to avoid any secondary changes. As soon, therefore, as the filters become clogged, new ones should be substituted.

Filtration of fruit juices should always be conducted at as low a temperature as possible.

If the fruit juice is made without fermentation, then the mashed, contused or grated fruit should be introduced into a press and expressed according to the general directions outlined above, then heated to boiling, preferably in a copper vessel, to coagulate the albuminous matter, the coagulum of albumen mechanically enveloping the suspended particles and rising to the surface as scum, thus leaving the liquid beneath tolerably clear. As fast as the scum is formed it should be removed, and, when no more is formed, the boiling should be discontinued.

Bottling.

After the juice has been filtered, or after it has been boiled and freed from scum, it should be bottled at once. Stout bottles should be selected, preferably such as have no projecting shoulders. The kind of bottle known as "champagne quarts" is generally obtainable and is entirely satisfactory. These bottles should first be thoroughly cleansed, then filled almost completely with the filtered juice, then placed in a large, deep metal vessel, the bottom of which is covered with straw, cloth, paper, or other non-conducting material; the vessel should now be filled with water to reach up to the shoulders of the bottles, and finally heat should be applied. The water in the outer vessel should be heated to boiling, and the boiling continued for at east ten minutes. In the meantime, good, sound corks should be selected, which, when dry, are a trifle too large; these should be boiled in water until thoroughly softened, and as soon as the juice has been heated for a sufficient length of time, the corks should be inserted into the bottles and then driven in with a mallet or stick. The object of this process is sterilization of the juice, i. e., destruction of micro-organisms which would cause decomposition of the juice, corking being performed before the possible entry of new germs from the air.

The amount of juice put into each bottle should be such that when the liquid expands upon the application of heat, it will reach to within about an inch of the bottom of the cork when the latter is fully inserted.

Some operators advise putting about 30 drops of alcohol upon the juice in each bottle, the vapor of alcohol filling the cavity in the top of the bottle and thus assisting preservation of the juice. Others instead add a fluidounce of alcohol to the liquid after fermentation is completed, thereby assisting in the precipitation of gummy, pectinous and albuminous matters.

If, in forcing corks into the bottles, it is found that they cannot be driven in entirely, drive in as far as possible, allow the liquid to cool somewhat, and then complete the insertion of the cork.

If the filtration of the juice requires an excessively long time, it is advisable to bottle the filtered portion before waiting for all the juice to filter.

In the Appert process of preservation, the bottles are nearly filled with juice, corked with good, large corks previously softened in hot water; the corks are tied over securely, the whole is heated on a water bath for ten minutes, allowed to cool, and the bottles are sealed by dipping the top into melted sealing wax.

If the juice is prepared without fermentation, then the process of bottling is somewhat different. The bottles should be cleansed as before, then heated in the water bath until the water in the bath is boiling; quickly pour into the bottles the hot, strained juice, and cork at once. It may be advisable to rinse the cleansed bottles with alcohol or to drop alcohol upon the juice in the bottles. The corks should be large and sound, softened in hot water as before.

Occasionally it happens that in driving in the cork the bottle cracks or breaks. To guard against any loss of juice, the bottle

should, during the insertion of the cork, be held over a vessel large enough to hold all the juice of the bottle. This juice may then be strained and returned to another bottle, sterilizing and corking as before.

After the juice has been bottled and corked, the tops may be tied over securely with stout cord and then dipped in melted sealing wax. If the corks be large and sound, the above procedure is unnecessary, but to provide against unobserved deficiencies in the corks, it may be advisable to seal the bottles as directed.

The bottles should finally be laid on their sides in a cool place, where the temperature is tolerably uniform, a cool cellar, for example.

If a bottle of fruit juice is opened to make a syrup, the whole should be at once converted into syrup, as any juice not so converted will quickly spoil.

CHAPTER VIII.

"SODA" SYRUPS.

Syrup.

Simple, plain, or stock syrup for soda fountain use, or "soda" or "fountain" syrup as it is frequently termed, is made of different strengths, depending upon the peculiar ideas or notions of the dispenser. Some use 10 av. pounds to one gallon of water, others again use the regular simple syrup of the pharmacopœia, but the most common formula in vogue is the following:

Sugar.....av. lb. 12
Water.....gal. 1

Of course, only the purest granulated sugar should be used. It may be dissolved in the water by means of heat or by the process of percolation, which is now so largely employed in making medicinal syrups.

If the heat process be preferred, the water and sugar should positively not be mixed before applying heat, as scorching of the sugar may occur, thereby imparting to the product a certain disagreeable taste, which is highly objectionable to a discriminating and delicate palate.

The percolation process should be preferred for making this preparation, as it is much more cleanly, is constant, and requires but little supervision. Any amount of syrup may be made by having a large percolator or several percolators, or a cask, which may be replenished with sugar and water as required. These percolators should be mounted in a substantial rack. A convenient syrup receptacle for ordinary use is a clean glycerin can.

Another apparatus for the continuous manufacture of syrup may be constructed by having a suitable cask or barrel mounted on a box or shelf about one foot above the floor, About 6 to 12 inches above the true bottom of the vessel should be a false bottom consisting of three parts, the under part a disk of perforated wood which fits the cask accurately; on this should be placed several thicknesses of washed burlap or other suitable straining material, and on top of this a cover of wood made by nailing laths across each other so as to leave small interspaces. The cask or barrel should also have a well-fitting cover and have a faucet situated just above the true bottom.

When syrup is to be made for the first time, the requisite quantity of sugar should be put in, then the water, which is to be allowed to percolate through, the mixture being stirred quite frequently. Before the first lot of syrup falls below the false bottom, more syrup should be made by first putting on water, adding the sugar (not the reverse) gradually with stirring, the whole to be stirred vigorously with a stick every few minutes until the sugar is about all dissolved. But very few stirrings will be required. Every lot of syrup after the first one must be made as here described. The syrup will always be strained and of proper density, and, by having the size of the vessel commensurate with the amount of syrup required from day to day, there will always be a sufficient quantity of syrup on hand.

The lower portion of the false bottom acts as a support to the strainer, and the upper portion as a protection to the strainer during stirring.

If new syrup is started before the old falls below the false bottom, the water added will not disturb the syrup below. If water be poured into the vessel after the syrup falls below the false bottom, it will mix with this syrup and the latter as drawn off will be weak. This syrup may be restored to its proper density by returning it to the vessel and allowing it to percolate through the undissolved sugar.

Syrup made of the strength given above 12 pounds sugar to 1 gallon of water) will, when mixed with fruit juices, be of about the proper density. When mixed with other flavoring, such as vanilla extract, lemon or orange essence, or one of the artificial essences, this syrup should be diluted with water in the proportion of about 12 to 16 fluidounces of the latter to enough syrup to make one gallon.

In a few instances it may be found that the density of the above soda syrup is too low; the U. S. P. syrup must then be used, which is made by adding 14 av. pounds of sugar to a gallon of water.

As stated above, only the purest granulated sugar should be used in making syrup. A very common impurity in granulated sugar is ultramarine blue, there being but few brands of sugar which do not contain some of it. This blue is added by sugar refiners with the view of imparting to the sugar a dazzling whiteness, or to disguise the yellow tint of an imperfectly refined sugar. Syrup made with a "blued" sugar will appear by transmitted light to be of a dirty bluish cast, and upon standing some of the insoluble blue will precipitate, and may readily be observed as a blue coating on the bottom of the container.

This impurity is objectionable, chiefly because it contains sulphide, and upon the addition of a fruit juice or other liquid containing acid, the odor of sulphuretted hydrogen will be evolved.

Of late many pharmacists have purchased the so-called "rock candy syrup" for use as plain syrup for soda purposes. This almost invariably contains glucose, and in addition, is always more expensive than a syrup prepared by the dispenser from granulated sugar. The following table will show the cost of home-made syrup if in the proportion of 12 av. pounds of sugar to 1 gallon of water:

Sugar per lb.	Cost 1 gal. syrup.	Sugar per lb.	Cost 1 gal. syrup.
5c	34c	7c	47c
5½c	37c	7½c	51c
6c	40c	8c	54c
6½c	44c		

Inasmuch as the price of rock candy syrup also fluctuates in the same ratio as sugar, the price of rock candy syrup purchased at a time when sugar is low must not be compared with that of home-made syrup prepared at a time when sugar has advanced.

When proper comparisons in the prices of the two syrups are made, it will be found that home-made syrup is always cheaper—in fact, so much cheaper that it will pay the dispenser handsomely to prepare his own syrup.

The chief argument advanced by rock candy syrup manufacturers for the use of their product, is that it is cheaper, and that a great deal of labor is saved. It will be quickly seen that it is not cheaper, and also that by the use of percolators or other suitable vessels as outlined above, the labor is little or nil, and is handsomely rewarded.

Simple, as well as all compound syrups, are best preserved in a moderately cool place, but not a cold place, as the latter may cause crystallization of the sugar, or "candying."

Foam Syrup.

What is sold by "soda" supply houses under this name is plain syrup, to which has been added some foam preparation, such as soap bark tincture. When such a syrup is used there is no need for the further addition of a foam agent in making a flavored syrup.

Fruit Syrups.

These may be prepared from fruit juices (see Chap. VII.) by adding to the bottle of juice sufficient syrup. The proportion of juice and syrup employed varies, according to the whim of the operator, the kind of patronage, or the quality of the juice, some using 1 part of juice to 3 of syrup, others 1 to 5, 1 to 7, or 1 to 9. The dilution of the juice with syrup should not be too great, as the product will lack the rich, full flavor it should possess, and prove a disappointment to the customer.

Certain fruit syrups require the addition of solution of citric acid, e.g., raspberry, strawberry, pineapple, orange, etc., to assist in developing the flavor. When the flavor is weak, it may also be fortified by the addition of a small amount of artificial fruit essence (see "Essences and Extracts," Chap. VII.). Under no condition, however, should a so-called fruit syrup be prepared from such es-

sence alone, as the latter might prove dangerous to the human system in the amount required properly to flavor the syrup, besides lacking in the exact fruit flavor.

The final addition to the syrup must, of course, be the soda foam.

In case only a small soda business is done, or it is for other reasons inadvisable at once to convert the entire contents of a bottle of fruit juice into syrup, the juice must then be converted into a concentrated syrup by adding to the contents of the bottle (if champagne-quart size) 2½ av. pounds of sugar, applying heat until dissolved, stirring constantly meanwhile, then bringing the whole up to a quick boil without further stirring.

When wanted for use, this concentrated syrup should be thinned with water and diluted with syrup to make 2 to 5 times the bulk of concentrated syrup. To this syrup is then to be added solution of citric acid and soda foam (and fruit essence).

If it is desired to convert the fruit directly into concentrated syrup, there are several ways of doing it. The fruit may be alternated with layers of sugar, first washing the former, freeing from calyces, stems, etc., or paring if like pineapple, and then slicing it. (See "Pineapple Syrup" and "Strawberry Syrup," this chapter.) This mixture of fruit and sugar should stand for from 6 to 24 hours (in a cool place), according to the character of the fruit—strawberries, for example, requiring much less time than pineapples. When the sugar has absorbed nearly all the juice from the fruit, leaving the latter more or less shriveled, the fruit should be washed off with water, expressed, the liquid incorporated with the previous mixture of sugar, juice and water, the whole heated to boiling, enough sugar added to make a saturated solution, and strained. This concentrated syrup should be diluted with water and syrup, acidified with solution of citric acid, and treated with soda foam as before.

The concentrated syrup may also be prepared by following a process very similar to the one recommended for making fruit juices. (See Chap. VI.) Mash or crush the fruit, allow it to ferment at a temperature of from 15 to 20 degrees C., until bright or until a small filtered portion mixes clear with a half volume of alcohol. Then strain and express as outlined for fruit juices; for every pint of juice add 1½ av. pounds of sugar, apply gentle heat until the latter is dissolved, stirring constantly meanwhile, then bring the whole up to a quick boil without stirring, skim off the scum of coagulated matter, if necessary, strain quickly, fill at once into stout bottles (like the champagne-quarts) which have previously been heated in a water bath or else rinsed with alcohol, cork quickly, tie over with stout wire, seal when cool with sealing wax, and put the bottles away, laid on their sides, in a cool place. If the hot syrup be poured into cold bottles, possible breakage of the latter may be prevented by resting them on a towel wet with water from the hydrant.

This concentrated syrup may also be diluted, when wanted for use, with water and syrup, and mixed with solution of citric acid and soda foam.

It has been suggested that fruit syrups may at times be made from confectioners' fruit paste (see "Apricot Syrup") or from preserved (canned) fruits. Fruit in this form may be pulped by trituration in a mortar or by other means, heated gently with water, expressed through a strainer, made into a syrup by heating with sugar, then adding sufficient water, syrup, solution of citric acid, and soda foam.

Banana, plum, orange, and lemon syrups are prepared differently from the other fruit syrups, as will be observed in the following formulas.

Geo. Kneuper, New York City, writes: "Whether fruit or fruit juice is used, the finished syrup should contain at least 25 per cent. of juice, not more than 50 per cent. sugar, and the balance water. This applies to strawberry, raspberry, pineapple and peach syrups. Lemon and orange syrups must always be made from the fruit and should contain the oil as it exists in the rind, i.e., free from oxidation."

Serving Drinks with Syrups.

Most of the syrups enumerated in this chapter are known when served by the name of the

syrup, viz., lemon "soda," vanilla "soda," pineapple "soda," etc. The syrup is first drawn into the glass, and the charged water, ice cream, etc., added as described in Chapter II. under the heading, "Drawing of Soda."

Any of these syrups may also be served "solid" by drawing an 8-ounce glass seven-eighths full of carbonated water drawn with the coarse stream, adding about 1 fluidounce of the syrup, and stirring with a spoon.

Alhambra Syrup.

Crême de Mandarin.....fl.oz. 4
Claret wine.....fl.oz. 12
Syrup.....enough to make.fl.oz. 32

Serve with crushed or shaved ice.

—Thomas & Thompson, Baltimore, Md.

Almond Syrup. (Noyeau Syrup.)

Flavor syrup with almond essence and add sufficient soda foam.

Ambrosia Syrup.

I.

Port wine.....fl.oz. 16
Lemon syrup.....fl.oz. 16
Raspberry syrup.....fl.oz. 32
Soda foam.....sufficient

II.

Raspberry syrup.....fl.oz. 28
Vanilla syrup.....fl.oz. 28
Hock wine.....fl.oz. 4 to 8
Soda foam.....sufficient

III.

Vanilla syrup.....fl.oz. 16
Strawberry syrup.....fl.oz. 16
Soda foam.....sufficient

IV.

Raspberry syrup.....fl.oz. 32
Orange syrup.....fl.oz. 16
Pineapple syrup.....fl.oz. 16
Soda foam.....sufficient

V.

Strawberry syrup.....fl.oz 32
Vanilla syrup.....fl.oz. 32
Rhine wine.....fl.oz. 4
Soda foam.....sufficient

VI.

This syrup may also be prepared by flavoring syrup with ambrosia extract.

VII.

Pineapple syrup.....pints 2
Raspberry syrup.....pints 2
Vanilla extract.....fl. dr. 2

—B. F. Stacey, Charlestown, Mass.

Anise Syrup.

Flavor plain syrup with anise essence and add soda foam. It may be colored with caramel.

Apple Syrup.

This may be prepared directly from the fruit, from the juice, from a mixture of the juice and essence, or from the essence alone. See "Fruit Syrups," and "Strawberry Syrup." Add sufficient soda foam to the mixture.

When the above is served "solid" in 8-ounce glasses it is sometimes called "apple cider" or "apple champagne."

Apricot Syrup.

Good apricot paste is obtainable from which fruit syrup may be made. Take of apricot paste and water equal parts by weight; heat gently, then as much more water, continuing the heat for a few moments; strain to remove the coarser portion of the pulp, add to the liquid one and one-half its weight of sugar; heat gently until dissolved. Dilute this concentrated syrup with water and syrup as much as may be desired, and add sufficient soda foam.

The syrup may also be prepared directly from the fruit, from the fruit juice, from a mixture of the juice and essence, or from the essence alone. See "Fruit Syrups" and "Strawberry Syrup."

Banana Syrup.

This may be prepared by peeling and slicing two bananas, then beating in a mortar until all lumps are reduced, then adding about 2 pints of syrup gradually, mixing the whole thoroughly after each addition. Lastly, add sufficient soda foam.

This syrup should be made fresh every day, and what is left over night should be thrown away.

The flavor of this syrup may be made more conspicuous by adding a small amount of banana essence.

Instead of adding syrup to the bananas, the latter may be made into a smooth paste with hot water, heat gently and for every pint of water add 24 av. ounces of sugar and dissolve, finally adding soda foam.

An inferior syrup may also be prepared by adding banana essence to syrup and incorporating sufficient soda foam with the mixture.

Birch Syrup.

Birch essence .....fl.oz. 2
Syrup .....enough to make fl.oz. 64
Soda foam .....sufficient

Serve "solid" in 8-ounce glasses by drawing the latter seven-eighths full with the coarse stream of carbonated water, adding 1 fluidounce of syrup and stirring with a spoon.

Birch Beer Syrup.

Add from 1 to 1½ fluidounces of birch beer extract to enough syrup to make 64 fluidounces. The mixture may be colored with caramel and acidified with solution of citric acid. Add also sufficient soda foam.

Serve like the preceding.

Blackberry Syrup.

This, like strawberry syrup, may be prepared directly from the berries, from the juice, from the extract, or from a mixture of juice and extract. See "Strawberry Syrup" and "Fruit Syrups." Sufficient soda foam should be added to the mixture. Also ½ to 1 fluidounce of solution of citric acid to a gallon of syrup.

Blueberry Syrup.

See "Huckleberry Syrup."

Calisaya Syrup.

See Chapter XVII.

Capillaire Syrup. (Maidenhair Syrup.)

Orange flower water.....fl.oz. 16
Sugar. .....av.oz. 24
Solution of citric acid.....fl.dr. 1
Rhine wine.....fl.oz. 1

Dissolve the sugar in the orange flower water by percolation, then add the remaining ingredients. The true maidenhair syrup may be prepared as follows:

Maidenhair fern.....av.oz. 1½
Water, boiling.....fl.oz. 16
Orange flower water.....fl.oz. 1
Sugar .....sufficient

Pour the boiling water on the fern, let stand one-half hour, express, add the orange flower water, and dissolve sugar in the mixture in the proportion of 6 av. ounces of the former to 4 fluidounces of the latter.

Catawba Syrup.

I.

Simple syrup, U. S. P.....fl.oz. 16
Catawba wine.....fl.oz. 16
Soda foam.....sufficient

If this syrup is not thick enough, more sugar (from 2 to 4 av. ounces) may be dissolved in it by agitation. This is frequently served "solid," as described above under "Serving Drinks with Syrups."

II.

Catawba wine.....pint 1
Syrups.... .....pints 3

Dispense 2 fluidounces in an 8-ounce glass, filling latter with carbonated water.

—J. Milhau's Son, New York, N. Y.

Champagne Syrup.

See "Lemon Champagne Syrup."

Checkerberry Syrup.

This is the same as wintergreen syrup.

Cherry Syrup.

Take of sour cherries a convenient quantity, bruise them in a porcelain, stone or wooden mortar, to break the stones or pits of the fruit; express the juice, set it aside for three days to undergo fermentation, and proceed according to the directions given for strawberry syrup. Some may prefer to have a syrup without the flavor from the pits, in which case the stones should be separated before bruising, or should be separated from the carefully bruised fruit by straining through a hair sieve.

The syrup may also be prepared from cherry juice or from cherry essence, or from a mixture of the two, as described under "Strawberry Syrup." About 4 fluidrams of solution of citric acid should be added to 1 gallon of cherry syrup, as well as sufficient soda foam.

The color may be deepened by means of black raspberry or black cherry juice, tincture of cudbear or cochineal coloring.

Cherry Syrup (Black).

This may be prepared like the preceding by substituting black cherries for ordinary cherries, black cherry juice for the juice of ordinary cherries, or black cherry extract for cherry extract.

Cherry Syrup (Wild).

See "Wild Cherry Syrup."

Cherry Cream Syrup.

Wild cherry or cherry juice	fl.oz. 8
Fluid extract of wild cherry (for syrup)	fl.oz. 1
Solution of citric acid	fl.dr. 2
Syrup, enough to make	fl.oz. 64

Serve "solid" in 8-ounce glasses by filling the latter three-quarters with the coarse stream of carbonated water, adding 1 fluidounce of the above syrup and ½ fluidounce of cream syrup, and stirring with a spoon.

Cherry Nectar Syrup.

Cherry syrup	fl.oz. 20
Pineapple syrup	fl.oz. 12
Vanilla extract	fl.dr. 2
Soda foam	sufficient

Color red if desired.

It may also be prepared from cherry nectar extract.

This syrup is usually dispensed "solid."

Chocolate Syrup.

Chocolate syrup may be prepared either from "chocolate" or from "cocoa," which, though ordinarily considered to be about the same, are commercially dissimilar substances. The former still contains the natural fat, and is in the form of cakes, and is also usually sweetened and sometimes flavored. The cocoas are in powder, are deprived of most of the cacao butter, are not sweetened or flavored, and sometimes contain a small amount of alkali to promote emulsification of the remaining fat and the suspension of the fibrous material.

While "chocolates" and "cocoas" are, therefore, different, these products also differ widely among themselves, as, for example, in flavor, in fineness, amount of fibrous material, amount of fat, etc. Therefore, when the following formulas for chocolate syrup specify a certain amount of "chocolate" or "cocoa" without specifying the brand, this amount may advantageously be increased in the case of some "chocolates" or "cocoas," and, again, in others, may be advantageously reduced.

The so-called "fluid extracts of cocoa" should never be employed for making chocolate syrup.

Chocolate syrups should always be prepared by means of heat. Care should be taken to avoid scorching, and this means constant attention and stirring.

No addition of soda foam is required to chocolate syrup.

Chocolate syrup should be flavored, vanilla extract being generally employed. Sometimes cinnamon oil or essence is used, sometimes the two are used in conjunction, and at times a small amount of orange essence, or even rose water or essence, is added. Other flavors which may be substituted for or added to the above are nutmeg essence, tincture of orris, and a tincture of catnip.

I.

Cocoa	av.oz. 4
Syrup	gal. 1
Vanilla extract	fl.dr. 4
Oil of cassia	drop 1

Heat one pint of the syrup to boiling, add in the cocoa, and stir until the whole is well mixed; add about one-half gallon more of syrup, heat to boiling, boil for one minute, add the remainder of the syrup, heat again to boiling, allow to cool, and add the extract and oil. No straining is required, the mixture not being lumpy when prepared in the manner directed.

II.

Cocoa, soluble	av.oz. 2
Water	fl.oz. 32
Sugar	av.oz. 52
Vanilla extract	about fl dr. 4

Triturate the cocoa in a mortar with a portion of the water, to a smooth paste, add the remainder of the water, then the sugar, heat the whole in a suitable vessel with constant stirring, until it nearly reaches the boiling point, then strain through a fine sieve, and when cold, add the vanilla extract.

III.

Chocolate, powder	av.oz. 4
Sugar	av.oz. 52
Vanilla extract	about fl.dr. 6
Water, boiling	fl.oz. 24

Mix the chocolate and sugar, triturate the mixed powders with the boiling water added slowly, and strain; when cool, add the vanilla extract.

IV.

Cocoa, powder	av.oz.	4
Sugar	av.oz.	4
Water, boiling	fl.oz.	32
Vanilla extract	about fl.oz.	1
Simple syrup	enough to make gal.	1

Mix the cocoa and sugar and stir into the water while boiling, continuing the boiling for several minutes. Mix this with the syrup and add the flavoring. A little cinnamon oil may be added.

V.

Confectioners' chocolate	av.oz.	8
Water, hot	fl.oz.	64
Condensed milk	can	1
Granulated sugar	av.lb.	5
Whites of two eggs.		
Vanilla extract	about fl.oz.	1

Cut the chocolate fine into a porcelain-lined evaporating dish, apply heat, rubbing the chocolate with a pestle until a smooth paste is obtained, to which add the water (which must be boiling hot) gradually, stirring constantly, then stir in the condensed milk and sugar until both are dissolved; set aside to cool When cold, skim off the cacao butter, particles of chocolate, etc., which will have covered the surface, add the whites of eggs, previously well beaten, the extract of vanilla, and strain through muslin.

VI.

Baker's chocolate	av.oz.	8
Borax, powder	av.oz.	½
Boric acid, powder	av.oz.	½
Starch	av.oz.	1
Water	fl.oz.	64
Sugar	av.lb.	6
Vanilla extract	about fl.oz.	1

Grate the chocolate, triturate with the borax, boric acid and starch, add slowly, with stirring, the water, bring to a boil, strain, allow to cool, and add the extract.

The syrup may be enriched if desired by the addition of a can of condensed milk and the whites of two eggs.

VII.

Baker's chocolate	av.oz.	4
Water, boiling	fl.oz.	32
Sugar	av.oz.	56
Vanilla extract	fl.dr.	4
Cinnamon, Ceylon, powder	gr.	20
Clove, powder	gr.	10

Grate the chocolate, mix intimately with the boiling water, dissolve the sugar in the mixture, strain through a coarse cloth or fine sieve, and add the cinnamon and clove.

VIII.

It may also be prepared from chocolate "extract" (Chap. VI.) by addition of syrup.

IX.

This syrup is usually prepared too sweet. The following is a satisfactory formula:

Chocolate, any good brand	av.oz.	4
Sugar, granulated	av.oz.	24
Water	fl.oz.	48

Put the chocolate in an enameled iron pot, and add to it about 8 av. ounces of sugar, stirring well with a porcelain pestle until all the lumps in the chocolate are reduced to powder and are well mixed with the sugar. Add the remainder of the sugar, mixing well. Heat the water to boiling, pour it on the mixture of chocolate and sugar, stir well with a wooden ladle, and boil the whole for a few minutes.

In dispensing, use about 3 fluidounces of this syrup and 1 fluidounce of cream to a 12-ounce glass. If cream, not cream syrup, is used, the sugar in the chocolate syrup should be increased ½ to 1 pound.

The addition of 2 fluidounces of glycerin and 2 av. ounces of starch, rubbed well with a cupful of water, before boiling, greatly increases the consistency ("body") of the syrup. Vanilla extract may be added ad libitum; about 1 fluidounce is the correct proportion.

This syrup should not be kept in the dispensing cans of the soda apparatus, but in bottles of 2-pint capacity, shaking the bottles thoroughly when syrup is first drawn.

By adding, before boiling, a can of condensed milk to the syrup, no addition of cream is required. The addition of this milk, however, causes the cream to spoil quickly, and is, therefore, not advisable, unless the syrup is sold in 2 or 3 days.

The full flavor of this syrup and its cheapness, allow the dispenser to be liberal with it.

—W. C. Alpers, Bayonne, N. J.

X. See also "Hot Chocolate," Chap. XIX.

Chocolate Cream Syrup.

Any of the preceding chocolate syrups may be converted into a chocolate cream syrup by

adding cream or condensed milk (about 16 fluidounces of the latter to enough syrup to make one gallon). The whites of two eggs may also be added to each gallon of syrup to enrich the taste.

Owing to the fact that a syrup containing chocolate or cocoa and cream or milk (and egg) spoils easily, some powdered boric acid should be incorporated with it, in about the proportion of 120 grains to a gallon,

Chocolate (Imperial) Syrup.

A chocolate syrup containing egg may be dispensed under this name or the following may be employed:

Cocoa, powder	av.oz. 18
Sugar	av.lb. 4
Gelatin, gold brand	av.oz. ½
Water	pints 5
Vanilla extract	fl.oz. 1½ to 2
Eggs	8

Dissolve the gelatin in 8 fluidounces of water, add the cocoa, sugar, and the remainder of the water, bring the whole to boil, stirring constantly meanwhile, strain when quite cool, add the vanilla extract, and finally the eggs previously well beaten.

Serve like chocolate syrup.

Chocolate Peppermint Syrup. (Mint Chocolate Syrup.)

Chocolate syrup	gal. ½
Essence of peppermint, U. S. P.	fl.dr. 1 or 2

Serve in 12-ounce glasses with cream or ice cream, or "solid" in 8-ounce glasses like the "phosphates."

—E. Beckenbach & Co., Cleveland, O.

Cinnamon Syrup.

Cinnamon essence	fl.dr. 2
Syrup	fl.oz. 16
Soda foam	sufficient

Claret Syrup.

Claret wine	fl.oz. 16
Simple syrup, U. S. P.	fl.oz. 16
Soda foam	sufficient

If desired, from 2 to 4 av. ounces more of sugar may be dissolved in the mixture by agitation.

If this syrup were served with cold water and shaved ice, the drink would be known as "iced claret."

Coca Syrup.

Elixir of coca (see Chap. XVI.)	fl.oz. 2
Or	
Wine of coca (see Chap. XVI.)	fl.oz. 4
Syrup	enough to make fl.oz. 16

This may be flavored as desired.

It should be served "solid" in an 8-ounce glass as described above under "Serving Drinks with Syrups."

Coca-Vanilla Syrup.

Coca syrup	fl.oz. 2
Vanilla extract	fl.dr. 2
Syrup	enough to make fl.oz. 16

This is to be served like the preceding.

Coffee Syrup.

The following syrups may be served as coffee soda in the usual manner, or as "iced coffee," by drawing 2 fluidounces of syrup in a 12-ounce glass, adding shaved ice, and filling the glass with plain water.

I.

Mocha coffee	av.oz. 2
Java coffee	av.oz. 6
Sugar	av.oz. 56
Water	enough to make fl.oz. 64
Soda foam	sufficient

Mix the previously roasted and finely-ground coffee, add 32 fluidounces of water, macerate in a suitable vessel, a wide-mouth bottle, for example, over night, covering the vessel loosely; then place the whole in another vessel of water, heat for two hours, strain, let stand about two hours, pour off the clear liquid through a muslin strainer, avoiding any of the precipitate, or the liquid may be filtered. Through the filter add enough water to make the filtrate measure 32 fluidounces. In the filtrate dissolve the sugar by agitation or percolation, and add the foam.

II.

Mocha coffee	av.oz. 2
Java coffee	av.oz. 2
Sugar	av.oz. 60
Water, Soda foam	of each, sufficient

The coffee should be fresh roasted, of the very best quality, and be ground to fine powder. Heat it in a vessel with 16 fluidounces of water to boiling, and boil for one minute, set the mixture aside for several minutes, then filter through a double filter, and gradually add hot or nearly boiling water

until the filtrate measures 32 fluidounces. In this filtrate dissolve the sugar by percolation. Finally add the foam.

III.

Mocha coffee	av.oz.	4
Glycerin	fl.oz.	1
Soda foam,		
Water, boiling	of each,	sufficient
Sugar	av.oz.	52

Mix the glycerin with the ground coffee, allow to stand for one or two hours, pack in a percolator, and pour on the water until 32 fluidounces of liquid are obtained. In this dissolve the sugar by percolation and to the solution add the foam.

IV.

Coffee, roasted and reduced to fine powder	av.oz.	7
Distilled water, hot	fl.oz.	8
Brandy	fl.oz.	2
Simple syrup, U. S. P., boiling hot	fl.oz.	20
Soda foam		sufficient

Mix the ingredients, cover well and set aside in moderately warm, not hot, place for about 15 minutes. Then allow to stand for 24 hours at the ordinary temperature and filter.

V.

Java coffee	av.oz.	4
Mocha coffee	av.oz.	4
Alcohol	fl.oz.	8
Water	fl.oz.	32
Soda foam		sufficient

Percolate the coffee, in moderately fine powder, with the mixture of the two liquids, add enough simple syrup to make 1 gallon, and lastly incorporate the soda foam.

VI.

Coffee	av.oz.	7
Sugar	av.oz.	54
Vanilla extract	fl.dr.	4
Water, boiling,		
Soda foam	of each,	sufficient

Moisten the finely-ground coffee with boiling water, pack in a percolator, macerate with water in the usual way, and then percolate with boiling water until 32 fluidounces of percolate are obtained. In the latter dissolve the sugar by agitation, strain, and add the extract and foam.

VII. Coffee syrup may also be prepared by adding from 8 (or even less) to 16 fluidounces of coffee extract to enough syrup to make 64 fluidounces, and incorporating sufficient soda foam.

VIII.

Mocha coffee	av.oz.	4
Java coffee	av.oz.	4
Sugar	av.lb.	5
Water		sufficient
Tincture of vanilla	fl.oz.	1

Percolate the coffee, previously reduced to powder, in a tin percolator with boiling water, pouring the latter upon the coffee, allowing to stand for a few minutes, and then permitting percolation to proceed slowly. Collect ¼ gallon of percolate, in the latter dissolve the sugar, strain, add the tincture and sufficient soda foam.

—E. P. Leach, Boston, Mass.

IX. This syrup should be made by using 2 av. pounds of high roast, so-called pure Mocha coffee, to the gallon. It should not be used when more than 24 hours old.

—Geo. E. Kneuper, New York, N. Y.

X. See also "Hot Coffee," Chap. XIX.

Coffee Cream Syrup.

Coffee syrup	fl.oz.	20
Cream	fl.oz.	12

Cranberry Syrup.

This may be prepared directly from the fruit or from the fruit juice as described under "Fruit Syrups" and "Strawberry Syrup." Add sufficient solution of citric acid and soda foam. The syrup may also be prepared from the extract (see Chap. VI.) or from a mixture of extract and juice as described under "Strawberry Syrup." The syrup should be colored red.

Cream Syrup.

This syrup is especially apt to become decomposed, and hence great care is required in its preservation. It must be kept in small, well-stoppered bottles in a cold place, preferably in the ice chamber. Only small quantities should be prepared at a time. Fortunately this syrup is used but little at present.

I.

Cream, fresh	fl.oz.	16
Sodium bicarbonate	gr.	60
Sugar	av.oz.	16

Mix and dissolve by frequent stirring with a glass rod.

II.

Cream, fresh.....pint 1
Milk, fresh.....pint 1
Sugar.....av.lb. 2

Dissolve by shaking. Keep in a cool place. The addition of 60 grains of sodium bicarbonate will retard souring.

III.

Condensed milk (without sugar)..pint 1
Water.....pint 1
Sugar.....av.oz. 20 to 24

Dissolve and strain.

Or use one-half pint each of condensed milk (with sugar) and water and add 1 pint of syrup.

Cream (Almond) Syrup.

I.

Sweet almonds.....av.oz. 24
Milk.....gal. ½
Sugar.....av.lb. 7½

Blanch the almonds, beat to a paste with some of the milk and sugar, mix this paste with the remainder of the milk, express, and strain. Dissolve the remainder of the sugar in the mixture by the aid of a water bath.

This is used as a substitute for cream syrup; it keeps better than the latter. The following may also be used:

II.

Sweet almond or pure olive oil, fresh.....fl.oz. 2
Acacia, powder.....av.oz. 2
Water.....fl.oz 12
Sugar.....av.oz. 16
Whites of 2 eggs.

Make an emulsion of the oil, acacia, and water, dissolve the sugar in the latter, and add the egg white.

Currant Syrup. (Red Currant Syrup.)

Prepare directly from the fruit, from the fruit juice, from a mixture of the juice and essence, or from the extract alone as described under "Strawberry Syrup" and "Fruit Syrups;" then add solution of citric acid and soda foam, and color with tincture of cudbear, cochineal coloring, or black cherry or black raspberry juice.

Or the syrup may be prepared from a mixture of 3 parts currant juice and 1 of raspberry. A portion of the raspberry juice may be replaced by black cherry juice.

Currant syrup may also be prepared by making a mixture of 2 or 3 parts of currants and 1 of raspberries in an earthen vessel, allowing to stand until fermentation begins, expressing, filtering, and dissolving 3 pounds of sugar in a quart of juice by the aid of heat. This concentrated syrup may be diluted with plain syrup, acidified with solution of citric acid, and colored like the preceding.

Currant Syrup (Framboise).

I.

Raspberry syrup.....pint 1
Currant syrup.....pints 2 or 4

Either of the proportions may be used as desired.

II.

Raspberry syrup.....fl.oz 12
Lemon syrup.....fl.oz. 12
Currant syrup..enough to make fl.oz. 64

Damascus Plum Syrup.

Port wine.....fl.oz. 8
Solution of citric acid.....fl.dr. 4
Vanilla extract.....fl.dr. 2
Syrup.....enough to make gal. ½
Soda foam.....sufficient
Tincture of cudbear enough to color bright red.

Serve like the other syrups.

Damson Syrup.

Prepared by mixing damson fruit juice with syrup and adding soda foam.

Don't Care Syrup.

Almost any syrup may be dispensed for this, or any combination of syrups may be used. If there be in stock any unsalable syrups or juices, these may be mixed and sold under this name. Some have indulged in the detestable practice of furnishing an alcoholic drink under this name; this should never be countenanced.

The following mixture has been suggested:

Pineapple syrup.....fl.oz. 4
Strawberry syrup.....fl.oz. 4
Vanilla extract.....fl.dr. 4
Port wine.....fl.oz. 2
Syrup.....enough to make fl.oz. 32

Florentine Syrup.

Pineapple juice	fl.oz. 1
Strawberry juice	fl.oz. 1
Vanilla syrup	fl.oz. 14
Soda foam	sufficient

Framboise Syrup.

See "Currant Syrup (Framboise)."

Fruiti Frui Syrup.

Lemon essence	fl.dr. 2
Orange essence	fl.dr. 1
Vanilla essence	fl.dr. 1
Solution of citric acid	fl.dr. 4
Syrup	enough to make fl.oz. 32
Compound tincture of cudbear enough to impart a light red color.	
Soda foam	sufficient

Gentian Syrup.

Fluid extract of gentian	fl.dr. 2
Sarsaparilla essence	fl.dr. 4
Syrup	fl.oz. 32

Serve "solid" in 8-ounce glasses.

Ginger Syrup.

I.

Tincture of ginger	fl.oz. 2
Syrup	fl.oz. 64
Soda foam	sufficient

When greater pungency is desired, 1 fluidram of tincture of capsicum may be added. For the ordinary tincture of ginger, essence of ginger may be substituted. A small amount of solution of citric acid may be added if desired, also sufficient tincture of curcuma or other yellow coloring to impart a yellowish tinge.

II.

Essence of ginger	fl.oz. 1
Tincture of capsicum	fl.dr. 2
Syrup	fl.oz. 64
Soda foam	sufficient

Add also a small amount of solution of citric acid if desired, and some tincture of curcuma or other yellow coloring.

For many people ginger is scarcely warm enough without the addition of capsicum.

III.

Soluble essence of ginger, N.F.	fl.oz. 1½
Tincture of ginger, U.S.P.	fl.oz. ½
Syrup, U.S.P.	pints 3
Water	pint 1

—Wm. P. De Forest, Brooklyn, N. Y.

Ginger Ale Syrup.

This should be served "solid" in 8-ounce glasses as described above under "Serving Drinks with Syrups."

I.

It may be prepared by adding 1 to 2, or even 3 or 4, (usually 1½) fluidounces of any of the ginger ale extracts (Chap. VI.) to 64 fluidounces of syrup and coloring deep brown with caramel. Some prefer to acidify with a small amount of solution of citric acid, 2 to 4 fluidrams.

II.

It may also be prepared from No. III. ginger ale extract as follows:

Extract	fl.oz. 4
Diluted alcohol	fl.oz. 10
Solution of citric acid	fl.dr. 4
Simple syrup, U. S. P.	fl.oz. 36
Water	enough to make fl.oz. 64

Color the mixture with caramel. If desired, about 1 fluidram of lemon essence may be added.

III.

Essence of ginger	fl.oz. 6
Solution of citric acid	fl.oz. 2 to 3
Essence of lemon	fl.dr. 2 to 4
Caramel	av.oz. 1
Syrup	enough to make fl.oz. 64

IV.

Ginger essence	fl.oz. 1½ to 2
Tincture of capsicum	fl.dr. 1½ to 2
Orange flower water	fl.oz. 1
Solution of citric acid	fl.oz. 1
Syrup	enough to make fl.oz. 64
Caramel	sufficient to color

If the ginger essence already contains capsicum, no further addition of the latter will be required. The orange flower water may be replaced by 2 fluidrams of lemon essence. A small amount of vanilla extract may be added.

V.

Ginger essence	fl.oz. 4
Lemon essence	fl.oz. 2
Tincture of capsicum	drops 20
Solution of citric acid	fl.oz. 1
Caramel	drops 30
Syrup	gal. 1

—W. M. Benton, Peoria, Ill.

VI.

Ginger ale extract	fl.dr.	6
Tincture of ginger	fl.dr.	6
Tartaric acid	gr.	120
Water	fl.dr.	4
Simple syrup..enough to make	gal.	½

—A. E. Acker, Washington, D.C.

VII.

Ginger syrup, U.S.P	gal.	½
Lemon syrup	fl.oz.	8
Tincture of capsicum	fl.dr.	1
Solution of citric acid	fl.dr.	3
Caramel	dr.	1 to 2

—G. G. C. Simms, Washington, D.C.

VIII.

Tincture of ginger (from bleached Jamaica ginger)	fl.oz.	6
Tincture of capsicum	fl.dr.	6
Tincture of lemon peel	fl.oz.	1
Oil of lemon	fl.dr.	½
Magnesium carbonate	av.oz.	2
Citric acid	av.oz.	¼
Tartaric acid	av.oz.	¼
Simple syrup	gal.	2
Caramel, Water	of each,	sufficient

Thoroughly mix the first five ingredients in a mortar and add gradually one pint of water and filter; when all the liquid has drained, add enough water through the filter to make the total filtrate measure 2 pints. To this add the acids previously dissolved in 1 fluidounce of warm water. Mix this liquid with the simple syrup and add caramel ¼ av. ounce, or enough to bring it to the desired shade. Soda foam may be added if deemed advisable.

This is to be dispensed like any other syrup and not put into a fountain, as the latter method gives inferior results.

—Alex. K. Finlay, New Orleans, La.

IX. See also "Ginger Ale," Chap, IX.

Ginger Champagne Syrup.

Ginger champagne extract	fl.oz.	4
Syrup..enough to make	fl.oz.	64

Serve like ginger ale syrup.

Ginger Beer Syrup.

Oleoresin of ginger	fl.oz.	½
Peel of 1 lemon, freshly grated.		
Oil of lemon	fl.dr.	¾
Angostura bitters	fl.oz.	3
Solution of citric acid	fl.oz.	1
Water	fl.oz.	36
Sugar	av.oz.	52
Purified talcum	av.oz.	1

Triturate the oleoresin and oil with the talcum, add the peel, bitters, and solution, and then 32 fluidounces of water gradually, set the vessel aside covered for 24 hours, filter, pass 4 fluidounces more of water through the filter, percolate the filtrate through the sugar, and color the syrup with caramel.

Serve like ginger ale syrup.

Ginger Tonic Syrup.

Ginger tonic extract	fl.oz.	2
Solution of citric acid	fl.oz.	1
Syrup..enough to make	fl.oz.	32

Color light brown with caramel.

This is to be served like ginger ale syrup.

Gooseberry Syrup.

This may be prepared from the fresh fruit, from the fruit juice, from a mixture of the juice and extract, or from the extract alone. (See "Fruit Syrups" and "Strawberry Syrup.) Add then sufficient solution of citric acid and soda foam.

Grape Syrup.

Grape juice (so-called unfermented grape wine.)	fl.oz.	16
Water	fl.oz.	8
Sugar	av.oz.	24
Soda foam		sufficient

Mix, dissolve by agitation and strain.

Or add from 6 to 12 fluidounces of grape juice to enough syrup to make ½ gallon of syrup. Or make the syrup directly from grapes, from grape extract, or from a mixture of juice and extract, as described under "Strawberry Syrup" and "Fruit Syrups."

To each gallon of syrup may be added ½ fluidounce of solution of citric acid.

Grape (Wild) Syrup.

This is to be prepared like other fruit syrups, directly from the fruit, if the latter is obtainable, or from the juice, as described under "Fruit Syrups" and "Raspberry Syrup." To each ½ gallon of syrup add 2 fluidrams of solution of citric acid and sufficient soda foam.

Hickory-Nut Cream Syrup.

Blanch 4 av. ounces of hickory-nut kernels so as to remove skin, which, if left on, would impart an unpleasant bitter taste; triturate to powder in a wedgewood or porcelain mortar,

adding a few drops of lemon juice to prevent separation of oil in kernels; then add water gradually so as to make a thick emulsion. When the emulsion is formed, the whole should be transferred to a cloth and be expressed; the residue should be returned to the mortar and treated as before, triturating again with water, and expressing, repeating this process until all of the nut passes through, occasionally adding a little more lemon juice to the residue. The result of this process, which should measure about 8 fluidounces, should be added to 16 fluidounces of cream syrup. Extract of lemon, vanilla, or other flavoring may be added, and if desired, some kind of coloring. This syrup is to be served like other soda water syrups.

Hock Syrup.

Hock wine.....fl.oz. 16
Simple syrup, U.S.P.....fl.oz. 16
Soda foam.....sufficient

If a denser syrup is desired, from 2 to 4 av. ounces of sugar may be dissolved in the mixture by agitation.

This is usually served "solid" in 8-ounce glasses as described above under "Serving Drinks with Syrups."

Huckleberry Syrup.

This syrup may be prepared directly from the fruit or from the fruit juice. See "Fruit Syrups" and "Strawberry Syrup." Then add solution of citric acid and soda foam.

Imperial Syrup.

Raspberry syrup,
Orange syrup .....equal parts of each

Kirsch Syrup.

Cherry essence (2½ per cent. oil of bitter almond).....fl.dr. 2
Concentrated cider.....fl.oz. 3
Lemon syrup.....fl.oz. 8
Caramel.....dr. 1
Solution of citric acid.....fl.dr. 1
Syrup.....enough to make fl.oz. 32

—W. M. Benton, Peoria, Ill.

Kola Syrup.

Fluid extract of kola.....fl.dr. 4
Pineapple syrup.....fl. oz. 32

Any other flavored syrup may be added to the fluid extract.

This is to be served "solid" in 8-ounce glasses, as directed above, under "Serving Drinks with Syrups."

Or the following:

Compound elixir of kola.....fl.oz. ½
Pineapple syrup.....fl.oz. 12
Claret wine.....fl.oz. 6
Caramel.....fl oz. ½
Syrup .....enough to make fl.oz. 32

Make a smooth paste of the caramel with some syrup, add the remaining ingredients and mix well.

Serve like the preceding.

The COMPOUND ELIXIR OF KOLA may be prepared as follows:

Fluid extract of kola.....fl.oz. 1
Fluid extract of coca.....fl.oz. 1½
Fluid extract of celery seed....fl.oz. 1
Tincture of sweet orange peel, U.S.P .....fl.oz. ½
Oil of orange.....fl.dr. 2
Oil of cinnamon.....drops 8
Oil of cloves .....drops 8
Alcohol,
Diluted alcohol,
....of each, enough to make fl.oz. 16
Purified talcum.....av.oz. 1

Dissolve the oils in 4 fluidounces of alcohol, triturate this solution, the fluid extracts, and the tincture intimately with the purified talcum, add then the caramel and enough diluted alcohol to make a pint, transfer the whole to a filter, and pass, if necessary, enough diluted alcohol through the filter to make the filtrate measure 16 fluidounces.

Kola-Coca Syrup.

Fluid extract of kola.....fl.oz. ½
Wine of coca .....fl.oz. 2
Syrup.....enough to make fl.oz. 32

Serve "solid" in 8-ounce glasses as described above under "Serving Drinks with Syrups."

See also the preceding.

Kola Vanilla Syrup.

Fluid extract of kola.....fl.dr. 2
Vanilla extract .....fl.dr. 2
Syrup.....fl.oz. 16

Serve "solid" in 8-ounce glasses as described above under "Serving Drinks with Syrups."

Lactart Syrup.

Lactart .....fl.oz. 3
Syrup.....fl.oz. 29
Soda foam.....sufficient

This is usually served "solid" in 8-ounce glasses as described above under "Serving Drinks with Syrups."

Lactart Sherbet Syrup.

Sherbet syrup	fl.oz. 30
Lactart	fl.oz. 2

This is to be served like the preceding.

Lemon Syrup.

This may be prepared directly from lemons or from lemon essence and citric acid. The former product is the more elegant one and should be preferred.

I.

Lemons, good-sized. full-flavored,	6 to 8
Sugar	av.lb. 6
Water,	
Soda foam	of each, sufficient

Grate off the flavedo or outer yellow portion of the lemons (after first washing and drying the latter), triturate the gratings to a fine condition with some of the sugar, express the juice, add it to the sugar, and then enough water to make ½ gallon, macerate for several hours, agitating frequently, filter, in the filtrate dissolve the sugar by agitation, strain and add the foam.

If the product is not sufficiently acid, it can be made so by the addition of a small amount of solution of citric acid. A fuller-bodied syrup may, of course, be produced by the use of more lemons. An addition which will greatly improve the product is the gratings of the flavedo of one orange, or a little spirit of orange made from fresh oil of orange peel.

This process for lemon syrup is practically the same as that for orange syrup No. III. from oranges.

II.

Lemon juice, recently expressed.	fl.oz. 32
Lemon peel, cut fine or grated.	av.oz. 2
Sugar	av.oz. 48
Water,	
Soda foam	of each, sufficient

Heat the lemon juice to boiling, add the peel, let the whole stand closely covered until cold, filter, add enough water through the filter to make the liquid measure 32 fluidounces, in the latter dissolve the sugar without heat, strain, and finally add the soda foam.

The peel and juice may be had by carefully grating the yellow portion from fresh lemons and subsequently expressing the latter.

III.

Grate rind from three lemons, rub with 6 av. ounces of granulated sugar, add 8 fluidounces of water, macerate a short time, stir frequently, strain, express lemons, mix juice with other liquid, add one-half gallon of simple syrup, U.S.P., and finally sufficient soda foam.

IV.

Solution of citric acid	fl.oz. 1
Lemon essence	fl.dr. 4
Syrup	fl.oz. 64
Soda foam	sufficient

Color yellowish, if desired, with tincture of turmeric or tincture of fustic.

—F. W. Kisker, Cincinnati, O.

V.

Citric acid	gr. 180
Lemon essence	fl.dr. 1½
Water	fl.oz. 6
Syrup	enough to make fl.oz. 64
Soda foam	sufficient

Dissolve the acid in the water and add the essence, syrup and foam. Color yellowish, if desired, like the preceding.

VI.

Oil of lemon	drops 12
Citric acid	gr. 300
Syrup	fl.oz. 64
Soda foam	sufficient

Rub oil with acid and a little syrup, add remainder of syrup and dissolve, and add the foam. Color yellowish, if desired, like the preceding.

VII.

Citric acid	gr. 140
Tartaric acid	gr. 70
Alcohol	fl.dr. 4
Water	fl.oz. 1
Lemon essence	fl.dr. 14
Syrup, hot	fl.oz. 64
Soda foam	sufficient

Dissolve the acids in the water and the essence in the alcohol, mix the two, add the syrup, strain, and finally incorporate the foam:

LEMON ESSENCE FOR THE ABOVE.

Cut or pare off the flavedo of 12 fresh, medium-sized lemons and of 1 orange, macerate for several days with 32 fluidounces

of alcohol, strain without pressure, add 1 gallon of water, dissolve in the mixture 1 grain of vanillin, and filter after about a week.

The vanillin may be omitted and the acids above replaced by 1 fluidounce of solution of citric acid.

VIII.

Lemon essence	fl.oz.	1
Orange essence	fl.dr.	4
Solution of citric acid	fl.oz.	1
Syrup	enough to make fl.oz.	64
Soda foam		sufficient

Color yellowish, if desired, like Nos. III., IV. and V.

IX.

Lemons		5 or 6
Sugar, cut loaf		sufficient

Remove the oil from the peel by rubbing the sugar against it, taking a fresh cube when one becomes saturated. Then add water to cover the sugar used, and dissolve with gentle heat; to this add enough syrup to make 1 gallon, and add soda foam. Then squeeze in the juice of lemons, using sufficient to impart the proper acidity.

—Frank Edel, Des Moines, Iowa.

X.

Fresh juice of lemons	fl.oz.	5
Some fresh lemon peel, cut fine and bruised in a mortar with sugar,		
Syrup	enough to make gal.	½
Soda foam		sufficient

Macerate for a few hours and strain.

—E. P. Leach & Co., Boston, Mass.

XI.

Oil of lemon, perfectly fresh	fl.dr.	1
Alcohol	fl.oz.	1
Citric acid	gr.	180
Water,	fl.oz.	2
Simple syrup	pints	3
Mucilage (or soda foam)		sufficient
Water	enough to make gal.	½

Dissolve the oil in the alcohol, the acid in the water, add both to the syrup, and then add the foam and water.

This syrup should not be kept longer than a week.

—Wm. P. De Forest, Brooklyn, N. Y.

XII.

Lemon essence	fl.oz.	½
Solution of citric acid	fl.oz.	1
White of one egg,		
Syrup	gal.	½

—W. M. Benton, Peoria, Ill.

Lemon Champagne Syrup.

Flavor syrup with lemon champagne extract, using 3 to 6 fluidounces of the latter to enough of the former to make 32 fluidounces.

This is to be served "solid" in 8-ounce glasses, as described above under "Serving Drinks with Syrups."

Lemon Sherbet Syrup.

Sherbet syrup	fl.oz.	16
Lemon syrup	fl.oz	16

This is usually served "solid" in 8-ounce glasses, like the preceding.

Lime Fruit Syrup.

Lime juice	fl.oz.	4 or 5
Syrup	enough to make fl.oz.	32

The mixture may be flavored with lime essence. It is, perhaps, more convenient to add lime juice to soda with plain syrup, or lemon syrup, as wanted.

This is usually served "solid" in 8-ounce glasses, like the preceding.

Malted Milk Syrup.

Malted milk	av.oz.	4
Whiskey	fl.oz.	2
Alcohol	fl.oz.	1
Maple syrup	fl.oz.	2
Syrup	fl.oz.	6
Water, hot	fl.oz.	16

Serve 2 fluidounces in an 8-ounce glass.

—J. Milhau's Son, New York, N. Y.

Malto Syrup.

I.

Extract of malt, thick	fl.oz.	4
Solution of acid phosphates	fl.oz.	1
Syrup	enough to make fl.oz.	64

This syrup may be slightly flavored with sarsaparilla essence. The malt extract may be omitted and the mixture colored with caramel.

II.

Lactic acid, concentrated	fl.dr.	1
Phosphoric acid, syrupy	fl.dr.	1
Raspberry juice	fl.oz.	1
Syrup	fl.oz.	23
Caramel, sufficient to color light brown		

While malto syrup is practically no longer in use, the above combinations may be prepared and offered as specialties under some new title.

This syrup is served "solid" in 8-ounce glasses, as described above, under "Serving Drinks with Syrups."

Maple Syrup.

I.

Maple sugar	av lb. 3 or 3½
Water	fl oz. 32
Solution of citric acid	fl.dr. 4
Vanilla extract	fl.dr. 1
Soda foam	sufficient

Dissolve the sugar in the water by the aid of a gentle heat, strain and add the solution, extract and foam. The extract may be omitted if desired.

Maple syrup may also be prepared by diluting the maple syrup of the groceries with about an equal volume of plain syrup.

II.

Best Vermont maple syrup	gal. 1
Vanilla extract	fl.oz. ½

—Jos. E. Grubb, Chicago, Ill.

Maple Cream Syrup.

Maple syrup	fl.oz. 22
Cream	fl.oz. 10

Marshmallow Syrup.

Sugar	av.oz. 16
Water	fl.oz. 32
Gum arabic, clean tears	av.oz. 6
Whites of 3 eggs.	

Dissolve the gum in one-half the water (cold) by frequent agitation, strain, dissolve the sugar in the remainder of the water by the aid of heat, beat the egg-white to froth, add the syrup, previously allowed to cool, then incorporate the gum solution, beating constantly while adding both sugar and gum solutions, and keep in a covered glass jar.

This syrup spoils easily and must not be kept more than a few days.

The following may also be employed:

Gum arabic, powder	gr. 150
Orange flower water	fl.oz. 1
Solution of citric acid	fl.dr. 2
Syrup	fl.oz. 28
Water	enough to make fl.oz. 32

Triturate the gum arabic with a portion of the syrup to a smooth paste, and add the remaining ingredients.

Mead Syrup. (New Orleans Mead Syrup. —Sarsaparilla Mead Syrup.)

I.

This may be prepared by adding from 1 to 2 or 3 fluidounces of mead extract to a gallon of syrup, or a mixture composed of one-half gallon each of syrup and honey, or a mixture of 40 av. ounces of honey, 64 fluidounces of syrup, and enough water to make 1 gallon. The mixture may be colored deep brown by the addition of caramel, and a small amount of solution of citric acid may be added if desired. Some recommend the addition of a little strawberry or raspberry to mead syrup.

II.

Mead syrup may be prepared from No. VI. Mead Extract by adding 56 fluidounces of water to 8 fluidounces of the essence, and dissolving 5 av. pounds of sugar in the mixture. The whole may be colored with caramel and acidified with solution of citric acid.

III.

Sarsaparilla	av.oz. 1¼
Licorice root	av.oz. 1¼
Marshmallow	av.oz. ¾
Sugar	av.lb. 6½
Water	sufficient
Oil of lemon	drops 30
Oil of wintergreen	drops 30
Oil of sassafras	drops 15
Oil of cinnamon	drops 10

Make 4 pints of decoction with the drugs, strain, dissolve the sugar in the colature, and when cold add the volatile oils.

IV.

Pineapple syrup	fl.oz. 4
Ginger essence	fl.oz. 1
Sarsaparilla essence	drops 30
Nutmeg essence	fl.dr. 3 or 4
Honey or thick malt extract	fl.oz. 4
Syrup	enough to make fl.oz. 64
Caramel	sufficient to color

Mead is served in a 12-ounce glass with a foam.

Mead (Excelsior) Syrup.

This may be prepared from excelsior mead extract in the same manner as mead syrup is prepared from mead extract. See "Mead Syrup."

Mead (French) Syrup.

I.

Aniseed	av oz.	1
Nutmeg	av.oz.	1
Cloves	av.oz.	½
Ginger, Jamaica	av.oz.	¼
Sarsaparilla	av.oz.	¼
Mace	av.oz.	¼
Cinnamon	av.oz.	¼
Pimento	gr.	60
Oil of wintergreen	drops	15
Oil of sassafras	drops	15
Honey	av.oz.	8
Sugar	av.lb.	5
Water	gal.	1½

Boil the drugs with the water for 15 minutes, strain, dissolve the sugar in the colature by agitation, strain again, and add the honey and oils, the latter preferably first dissolved in a small amount of alcohol.

II.

It may also be prepared by adding about 4 fluidounces of French mead extract and 1 fluidounce of tincture of quillaja to enough syrup to make 64 fluidounces. A small portion of the syrup may be replaced by honey.

Mead (Nectarine) Syrup.

Almond essence	fl.dr.	2
Mead extract	fl.oz.	1½
Raspberry juice	fl.oz.	3
Orange juice	fl.oz.	6
Orange flower water, imported	fl.oz.	1
Rose water, imported	fl.oz.	8
Solution of citric acid	fl.dr.	1
Syrup	enough to make fl.oz.	64
Soda foam	sufficient	

Mead (New Orleans) Syrup.

See Chap. IX. and "Mead Syrup."

Mead (Pineapple) Syrup.

Mead extract	fl.oz.	1½
Rose water, imported	fl.oz.	6
Pineapple juice	fl.oz.	6
Solution of citric acid	fl.dr.	1
Syrup	enough to make fl.oz.	64
Soda foam	sufficient	

Mead (Raspberry) Syrup.

Prepare like pineapple mead syrup, substituting raspberry juice for the pineapple juice.

Other Fruit Meads.

These may be prepared exactly like the above except substitution of the corresponding fruit juices.

Grape and Peach Mead Syrups are, however, to be made without the use of rose water.

Blackberry, Currant, Cherry, and Elderberry Mead Syrups are to be prepared by replacing one-half of the rose water with cinnamon water.

Quince Mead Syrup is to be prepared by the use of cinnamon water alone, and Prune Mead Syrup by the use of imported orange flower water instead of the rose water. All others are to be made by using the latter.

Mead (Rose) Syrup.

Mead extract	fl.oz.	1½
Rose syrup	fl.oz.	32
Syrup	enough to make fl oz.	64
Gum foam	sufficient	

Mead (Washington) Syrup.

This may be prepared from Washington mead extract by adding 4 fluidounces of the latter, 1 fluidounce of solution of citric acid, and sufficient caramel to color, to enough syrup to make 32 fluidounces.

Melon Syrup.

This may be prepared by flavoring syrup with the extract (see Chap. VI.) and adding sufficient soda foam.

Milk Shake Syrup.

Milk shake extract	fl oz.	1
Syrup	fl.oz.	15

This is to be employed for flavoring milk and cream in making milk and cream shakes.

Mint Chocolate Syrup.

See "Chocolate Peppermint Syrup."

Moselle Syrup.

I.

Lemon juice	fl.oz.	1
Or solution of citric acid	fl.dr.	1½
Vanilla extract	fl.dr.	3
Orange essence	fl.dr.	½
Absinthe essence	fl.dr.	½
Celery essence	drops	15 or 20
Syrup	enough to make fl.oz.	32
Soda foam and caramel	of each,	sufficient

II.

Angostura bitters	fl.dr.	1½
Lemon essence	fl.oz.	1½
Vanilla extract	fl.dr.	6
Solution of citric acid	fl dr.	3
Syrup	enough to make fl.oz.	32
Caramel and soda foam	sufficient	

Mountain Mist Syrup.

Holland gin.....fl.oz. 1
Lemon syrup.....fl.oz. 15

This is to be served "solid" in 8-ounce glasses as described above under "Serving Drinks with Syrups."

Moxie Syrup. (Nerve Food Syrup.—Mexican Sarsaparilla Syrup.)

These formulas are said to make syrups closely resembling moxie.

I.

Sarsaparilla essence.....fl.dr. 6
Fluid extract of gentian.....fl.dr. 6
Compound syrup of sarsaparilla..fl.oz. 6
Caramel.....fl.oz. 1
Syrup.....enough to make fl.oz. 64

Dissolve the oil in the alcohol and add to the other ingredients.

II.

Compound tincture of gentian..fl.oz. 1
Sarsaparilla essence.....fl.dr. 4
Syrup.....fl.oz. 64
Caramel.....sufficient to color

Mulberry Syrup.

This, like strawberry syrup, may be prepared directly from the fruit or from the juice. (See "Strawberry Syrup" and "Fruit Syrups.") The mixture should be acidified with a small amount of solution of citric acid, about ½ fluidounce of solution to 1 gallon of syrup.

Nectar Syrup.

Nectar flavor consists of a mixture of several flavors, mainly vanilla, pineapple, and strawberry or raspberry. The mixture may be colored red by the addition of some suitable red coloring.

I.

Vanilla syrup..... fl.oz. 40
Pineapple syrup.....fl.oz. 8
Strawberry or raspberry syrup..fl.oz. 16
Soda foam.....sufficient

II.

Nutmeg essence.....fl.oz. 1
Lemon essence.....fl.dr. 4
Vanilla extract.....fl.dr. 4
Syrup.....enough to make gal. ½
Soda foam.....sufficient

III.

Strawberry syrup.....fl.oz. 32
Madeira wine.....fl.oz. 4
Almond essence.....fl.dr. 4
Solution of citric acid.....fl.oz. 1
Simple syrup, U. S. P.,.....
.....enough to make fl.oz. 64
Soda foam.....sufficient

IV.

Raspberry juice.....fl.oz. 4
Pineapple juice.....fl.oz. 2
Vanilla extract.....fl.oz. 1
Syrup.....enough to make fl.oz. 64
Soda foam.....sufficient

V.

Almond essence.....fl.dr. 1 to 2
Orange flower water, fresh.....fl.dr. 1
Pineapple syrup.....fl.oz. 10
Raspberry syrup.....fl.oz. 20
Soda foam.....sufficient

VI.

Lemon syrup.....fl.oz. 12
Pineapple syrup.....fl.oz. 12
Vanilla syrup.....fl.oz. 36
Soda foam.....sufficient

VII.

Vanilla extract.....fl.dr. 4
Rose essence.....fl.dr. 4
Lemon essence.....fl.dr. 4
Almond essence.....fl.dr. 4
Syrup.....enough to make gal. ½
Soda foam.....sufficient

Color with tincture of cudbear or cochineal coloring.

VIII.

Raspberry syrup.....fl.oz. 16
Pineapple syrup.....fl.oz. 8
Orgeat syrup.....fl.oz. 4
Port wine.....fl.oz. 4
Syrup.....enough to make gal. ½
Soda foam.....sufficient

IX.

Peach syrup,
Orange syrup,
Pineapple syrup....of each, equal parts

X.

This syrup is also prepared by flavoring syrup with nectarine essence, acidifying with solution of citric acid, coloring with suitable red color, and adding soda foam.

XI.

Nectarine extract.....fl.dr. 6
Rose water.....fl.dr. 4
Orange flower water.....fl.dr. 2
Syrup.....gal. ½
Carmine solution.....fl.dr. 3

—A. E. Acker, Washington, D. C.

XII.

Raspberry juice	fl.oz. 3
Pineapple juice	fl.oz. 3
Essence of bitter almonds (1:16)	drops 10
Syrup	enough to make fl.oz. 32
Carmine solution	sufficient

—R. N. Girling, Holmesville, Miss.

XIII.

Pineapple syrup	fl.oz. 3
Strawberry syrup	fl.oz. 3
Raspberry syrup	fl.oz. 3
Lemon syrup	fl.oz. 6
Vanilla syrup	fl.oz. 15

The vanilla syrup is made from 3 fluidrams of extract to the quart; lemon syrup from 1 to 1½ lemons to the quart.

—Simons & Cooper, Detroit, Mich.

Nectar Ambrosia Syrup.

Cream	pints 2
Sugar	av.lb. 2½
Egg	1
Vanilla extract	fl.dr. 4
Lemon extract	fl.dr. 4

Mix, dissolve, and strain.

In serving, fill a 12-ounce glass two-thirds with finely shaved ice, add 2 fluidounces of syrup, fill the glass with the coarse stream of carbonated water, top off with shaved ice, and serve with spoon and straws.

Nectar Cream Syrup. (Cream Nectar.)

I.

Vanilla syrup	fl.oz. 24
Pineapple syrup	fl.oz. 8
Cream syrup	fl.oz. 8

Or mix 4 parts of nectar syrup with 1 part of cream syrup.

Or use the following:

II.

Milk, fresh	fl.oz. 16
Sugar	av.oz. 20 to 24
Vanilla extract	fl.oz. 3
Lemon essence	fl.oz. ½

Dissolve the sugar in the milk by agitation, strain, add the flavors, and color with a suitable red color (see Chap. IV.) The lemon essence may be omitted and the vanilla reduced if desired.

Equal parts of cream and syrup may be mixed and the mixture flavored with vanilla extract.

III.

Cream syrup	fl.oz. 32
Lemon essence	fl.dr. 1
Vanilla extract	fl.dr. 2
Almond essence	drops 9
Solution of carmine	sufficient

The cream syrup is to be made from 2 pints of pure, fresh milk and 3 av. pounds of sugar. The almond essence is to be made from 20 drops of oil of bitter almonds and 1 fluidounce of alcohol.

—F. C. Godbold, New Orleans, La.

IV.

Rich cream	pint 1
Rich milk	pint 1
Vanilla extract	fl.oz. ½
Solution of carmine	enough to color
Soda foam	sufficient
Sugar	enough to make gal. ½

—F. W. Kisker, Cincinnati, O.

Nerve Food Syrup.

I.

Use for this the preparation mentioned under "Moxie Syrup," or make from nerve food extract (see Chap. VI.).

This is to be served "solid" with carbonated water in an 8-ounce glass.

II.

The following formula may also be employed:

Oil of sassafras	drops 2
Oil of wintergreen	drops 5
Tincture of nux vomica	fl. dr. 1
Tincture of oats	fl.oz. 4
Fluid extract of coca	fl.oz. 1
Angostura bitters	fl.oz. 2
Water	enough to make fl.oz. 10
Syrup	enough to make gal. ½
Purified talcum	av oz. ½

Triturate the oils, tinctures, fluid extract and bitters with the talcum, add 3 fluidounces of water, and filter, adding through the filter enough water, if necessary, to make the filtrate measure 10 fluidounces. Add the latter to the syrup and color with caramel.

The tincture of oats may be prepared as follows:

Oats, unhusked, fine powder	av.oz. 8
Potassium bicarbonate	gr. 180
Diluted alcohol, enough to make	fl.oz. 16

Dissolve the potassium bicarbonate in 8 fluidounces of water. Add 8 fluidounces of alcohol, moisten the oats with this mixture

for 3 hours, then percolate with the liquid, and continue percolation until 16 fluidounces of product are obtained.

Nerve Tonic Syrup.

Use for this either nerve food syrup, tonic syrup, or tonic beer syrup. Or use the following:

Compound syrup of sarsaparilla	fl.oz. 4
Ginger syrup	fl.oz. 2
Compound tincture of gentian	fl.oz. 2
Solution of acid phosphates	fl.oz. 2
Syrup	enough to make fl.oz. 32
Caramel	sufficient to color

It should be served "solid" with carbonated water in an 8-ounce glass.

—Andrew Blair & Co., Philadelphia, Pa.

Opera Bouquet Syrup.

Rose water	fl.oz. 3
Strawberry juice or concentrated syrup	fl.oz. 3
Syrup	enough to make fl.oz. 32

Color deep red with carmine solution.

—Webster & Churchill, Minneapolis, Minn.

Orange Syrup.

I.

Oil of orange (fresh)	drops 10
Solution of citric acid	fl dr. 4
Syrup	fl.oz. 64
Soda foam	sufficient

II.

Oil of orange	drops 15
Tartaric acid	gr. 120
Or solution of citric acid	fl.dr. 4
Syrup	fl.oz. 64
Soda foam	sufficient

Rub oil with acid and small portion of syrup, add remainder of syrup, dissolve, add the foam and strain.

III.

Take 6 to 8 good oranges and rub the oil from the rind by means of cut loaf sugar. This breaks the oil glands from the peel, and the sugar soon becomes saturated with the oil. When one piece of sugar becomes saturated take another, and continue this until the oil is removed from the peel. Do not rub so as to get the sugar down into the underlying white portion of the peel, and thus take up any of the bitter principle contained in the latter.

The oily sugar may then be covered with water, the juice from the oranges be expressed upon it, and enough syrup added to make 1 gallon. Heat the whole gently to dissolve the sugar, and strain through a plug of absorbent cotton, or through flannel. Then add a small amount of solution of citric acid, if too sweet, and sufficient soda foam.

If the product is considered too thin, the water may be omitted in the formula, thereby increasing the proportion of syrup.

IV.

Orange syrup may also be prepared according to formula No. I. under "Lemon Syrup." A smaller amount of citric acid is required to acidify orange syrup.

V.

Orange syrup may also be prepared by adding a sufficient amount of one of the orange essences to syrup, and then enough solution of citric acid (about 2 to 4 fluidounces to 1 gallon) and sufficient soda foam.

VI.

Take large Florida oranges, thick-skinned; peel them and cut the white layer from the interior of the peel. Cut the peel in small pieces and put in a wide-mouthed bottle, after weighing. Pour alcohol over the peel, using 2 fluidounces of alcohol to 1 av. ounce of orange peel. Allow to macerate for a few days, then strain the tincture, and use 4 fluidounces to 3 pints of simple syrup, adding the syrup in successive quantities, shaking well each time; add water enough to make one-half gallon, and shake again.

This gives an excellent flavor of orange. If a dark color is required, add some solution (1:16) of aniline orange in diluted alcohol. The addition of 2 fluidrams of tincture of quillaja and 1 fluidounce of glycerin will produce a fine lasting foam.

The white portion of the peel should be rejected, as it imparts a bitter taste to the syrup and impairs its flavor.

—W. C. Alpers, Bayonne, N. J.

VII.

Oranges	4
Sugar	av.oz. 2
Solution of citric acid	fl.dr. 1
Syrup	enough to make gal. ½

Grate the peel from the oranges, rub it well with the sugar, then express the juice from the oranges on the peel, add the acid solution and syrup, mix well, and strain.

—Edmonds & Williams, Washington, D. C.

VIII.

Oranges 5
Sugar ..... av.lb. 1
Syrup ..... enough to make gal. 1

Grate the oranges to obtain the yellow portion of the peel, carefully avoiding obtaining any of the white part. Mix the peel thoroughly with the sugar in a mortar, allow to stand 24 hours, squeeze in the juice of the oranges, stir well, strain, and add the syrup, also adding soda foam.

—A. W. Stewart & Co. New York, N. Y.

IX.

This may also be prepared according to formula No. IX. under "Lemon Syrup," substituting oranges for the lemons.

—Frank Edel, Des Moines, Iowa.

Orange (Supersaturated) Syrup.

Orange juice, freshly expressed . pints 2
Orange peel, yellow portion only ..... av.oz. 5
Sugar ..... av.oz. 34
Salicylic acid ..... gr. 15
Alcohol ..... fl.dr. 1

Grate the yellow rind from the orange without any of the white, beat it up with an equal weight of sugar and the salicylic acid dissolved in the alcohol; remove the white peel from the oranges and press out the juice; to this add the peel treated as above and the balance of the sugar, stir thoroughly and allow to stand for 2 hours, then strain through cheesecloth and bottle.

For use at the fountain dilute with equal quantities of simple syrup, and add 4 ounces of mucilage of gum arabic (unless the syrup has been prepared with abumen or other foam agent).

Cost of supersaturated syrup with oranges at $3.00 per box, $1.00 per gallon, 1 box making a trifle over 4 gallons of syrup

—James Vernor, Detroit, Mich.

Orange (Blood or Red) Syrup.

I.

Blood orange syrup may be prepared from any of the preceding orange syrups by coloring sufficiently with black raspberry or black cherry juice, tincture of cudbear, or cochineal coloring.

II.

It may also be prepared as follows: Collect from your own table or from that of others, whenever opportunity offers, the peels of good, sound oranges, cleanse by washing, dry, with a sharp knife cut off the other yellow portion so as to get all the oil cells, cut this up fine, introduce into wide-mouth bottles or jars, add just enough good alcohol to cover the peel, close the container tightly, and macerate for at least 1 month. From the orange essence so obtained the syrup may be prepared by mixing about 4 fluidounces of the essence, about 4 fluidounces of black raspberry juice, and about 2 fluidrams of solution of citric acid with enough syrup to make 64 fluidounces. Soda foam may be added if desired.

III.

Orange essence No. 1 ..... fl.oz. 2
Solution of citric acid ..... fl.oz. 2
Black raspberry juice ..... fl.oz. 8
Syrup ..... enough to make gal. ½

Orange (Maltese or Malta) Syrup.

This is the same as the preceding.

Orange Blossom Syrup.

Orange flower water ..... fl.dr. 2 to 4
Red orange syrup .....
..... enough to make fl.oz. 32
Soda foam ..... sufficient

Orange Nectar Syrup.

Red orange syrup ..... fl.oz. 16
Pineapple syrup ..... fl.oz. 16
Soda foam ..... sufficient

It may be prepared by flavoring syrup with orange nectar extract, adding soda foam, and coloring red if desired.

This syrup is usually dispensed "solid" in 8-ounce glasses, as described above under "Serving Drinks with Syrups."

Orange Sherbet Syrup.

Sherbet syrup ..... fl.oz. 16
Orange syrup ..... fl.oz. 16
Soda foam ..... sufficient

Color with a suitable red color.

It is served usually like the preceding.

Orgeat Syrup.

I.

Sweet almonds	av.oz. 8
Bitter almonds	av.oz. 3
Sugar	av.oz. 48
Water	fl.oz. 26
Orange flower water	fl.oz. 4

Blanch the almonds, rub them in a mortar to fine paste with 12 av. ounces of the sugar and 2 fluidounces of the water. Mix the paste with the remainder of the water, strain with strong expression, add the remainder of the sugar, and dissolve it with the aid of a gentle heat. Lastly, add the orange flower water and strain the syrup again.

This mixture may be diluted by adding 4 fluidounces of orange flower water and enough syrup to make 1 gallon.

II.

Sweet almonds	av.oz. 1
Sugar	av.oz. 24
Gum arabic, powder	av.oz. ½
Almond essence	drops 10
Water	sufficient

Blanch the almonds, triturate with the gum and ½ av. ounce of the sugar, make into a smooth mixture with enough water gradually added to make 16 fluidounces. In the latter dissolve the sugar without heat, strain, and add the almond essence.

III.

Vanilla syrup	fl.oz. 16
Cream syrup	fl.oz. 8
Syrup	fl.oz. 8
Oil of bitter almonds	drops 5

IV.

Cream syrup	fl.oz. 16
Vanilla syrup	fl.oz. 16
Oil of bitter almonds	drops 4

V.

Almond essence	fl.dr. 4
Orange essence	fl.dr. 4
Syrup	fl.oz. 64
Soda foam	sufficient

VI.

Almond essence	fl.dr. 4
Syrup	fl.oz. 64
Soda foam	sufficient

VII.

The syrup may also be prepared by adding orgeat essence to syrup in sufficient amount to flavor the latter, and then incorporating sufficient soda foam.

VIII.

Almond essence	fl.dr. 4
Tincture of ginger	fl. dr. 2
Solution of citric acid	fl.dr. 2
Mucilage of acacia	fl.dr. 4
Simple syrup	gal. ½

—B. F. Stacey, Charlestown, Mass.

Peach Syrup.

This may be prepared from fresh, ripe peaches, from peach juice, from peach extract, or from a mixture of juice and essence, as directed under "Strawberry Syrup" and "Fruit Syrups." Or the pulp of ripe peaches may be thoroughly disintegrated by means of a Keystone beater, gradually adding its own weight of water; then press through a moderately coarse strainer, to each quart add 3 pounds of sugar, dissolve, and add soda foam.

This syrup may be admirably approached in flavor by adding from 4 to 6 fluidounces strawberry juice to 1 quart apricot syrup.

Pear Syrup.

This may be prepared directly from the fruit, from the juice, from the essence, or from a mixture of juice and essence, as described under "Strawberry Syrup" and "Fruit Syrups," finally adding soda foam.

Pear Champagne Syrup.

Prepare by adding about 2 fluidounces of pear champagne extract to enough syrup to make 64 fluidounces.

This is to be served "solid" in 8-ounce glasses.

Peruvian Beer Syrup. (Peruvian Syrup.)

This is prepared by adding from 1 to 4 fluidounces of the extract to 1 gallon of syrup, coloring with caramel, and adding sufficient soda foam.

Root Beer or Ottawa Beer Syrup may be served for it.

This may be served with foam in a 12-ounce glass or "solid" in an 8-ounce glass.

Pineapple Syrup.

CONCENTRATED SYRUP.

I.

Take one pineapple, pare it, cut it into thin slices, spread these in layers in a wide,

shallow vessel and sprinkle sugar over them, a layer of sugar for each layer of fruit; let stand 24 hours, pour off the liquid and set aside. Wash the pieces with 2 pints of water and express. To the expressed liquid add 4 av. pounds of granulated sugar, and apply a gentle heat until dissolved. When nearly dissolved add the juice first obtained, and simmer, strain, and keep in well-corked bottles.

The juice may also be extracted from the fruit by pounding with a heavy piece of wood in a tub with a strong bottom. Considerable pressure is required owing to the fibrous nature of the fruit. Something like a cider press will serve excellently for extraction.

It is sometimes recommended to add a small amount of pure acetic acid to pineapple syrup.

II.

Concentrated pineapple syrup...fl.oz. 4
Syrup.....fl.oz. 32
Soda foam.....sufficient

This is the diluted syrup for fountain use.

Solution of citric acid, about 2 fluidrams, may be added if the syrup be not acid enough.

III.

This syrup may also be prepared by taking any convenient number of pineapples, carefully paring them, then slicing and beating to a pulp in a mortar with sugar. Collect the juice by straining, and for each quart take 24 fluidounces of water and about 6 pounds of sugar and dissolve. Finally add soda foam.

IV.

Pineapple syrup may also be prepared by flavoring syrup with pineapple essence, acidifying with solution of citric acid, and coloring with tincture of saffron or tincture of fustic. A small amount of pure acetic acid may also be added. Finally add sufficient soda foam.

V.

Peel pineapples and slice them thin; place in a jar, alternating the slices with sugar until the jar is filled or the fruit is all used. Allow to stand for 24 hours and strain. Put up in 1-pint or smaller bottles, cork and seal, or protect from fermentation by using 5 grains of benzoic acid to ½ gallon of syrup.

—Wm. P. De Forest, Brooklyn, N. Y.

VI.

Simple syrup..... ... pints 3
Concentrated pineapple syrup...pint 1
Solution of citric acid..... .fl.oz. 1

—A. J. Gosman, Baltimore, Md.

Pineapple Cider Syrup.

This is prepared by adding about 2 fluidounces of pineapple cider extract to enough syrup to make 64 fluidounces.

It is served "solid" in 8-ounce glasses.

Pistachio Syrup.

I.

Add pistachio essence to syrup in sufficient amount properly to flavor the latter, and then incorporate sufficient soda foam with the mixture; color a delicate green.

This is to be served in 12-ounce glasses with some foam.

II.

The syrup may also be prepared as follows:

Almond essence.....fl.oz. 1
Orange flower water.....fl.oz. 2
Syrup.....enough to make fl.oz. 64
Soda foam.....sufficient

Color green with a suitable color.

Plum Syrup.

This is frequently made by treating selected prunes by boiling with hot water to extract their flavor and a portion of the pulp, and made as banana; but it is better made direct from the ripe fruit or from the juice, or a mixture of juice and essence, like strawberry syrup, and acceptably from canned fruit. A small amount of soda foam should be added.

The syrup may also be prepared from the extract as described under "Strawberry Syrup" and "Fruit Syrups."

Polar Syrup.

Root beer extract.....fl.dr. 4
Ginger ale extract.....fl.dr. 2
Syrup.....enough to make fl.oz. 16
Soda foam.....sufficient

Pomegranate Syrup.

Pomegranate juice.....fl.oz. 16
Lemon juice.....fl.oz. ½
Vanilla extract.....fl.oz. ½
Syrup.....fl.oz. 16
Soda foam.....sufficient

It has also been recommended to prepare it from grenadine essence by adding 5 fluidrams of the latter, 4 fluidrams of solution of citric acid and sufficient soda foam to enough syrup to make 32 fluidrams.

Punch Syrup.

California brandy.....fl.oz. 4
New England rum.....fl.oz. 4
Vanilla extract.....fl.dr. 2
Solution of citric acid.....fl.dr. 1
Syrup.....enough to make gal. ½

—Jos. E. Grubb, Chicago, Ill.

Quince Syrup.

This may be prepared directly from the fruit, from the fruit juice, from a mixture of the juice and essence, or from the extract alone, as described under "Strawberry Syrup" and "Fruit Syrups." Then add sufficient soda foam.

Raspberry Syrup.

This may be prepared from fresh, ripe (red or black) raspberries, from raspberry juice, from raspberry extract, or from a mixture of juice and extract, as directed under "Strawberry Syrup" and "Fruit Syrups." Sometimes it is recommended to use one part of currants to 4 parts of raspberries, or the same proportion of currant juice to the raspberry juice in making raspberry syrup.

To each gallon add 1 fluidounce of solution of citric acid and sufficient soda foam.

Root Beer Syrup.

This may be prepared from one of the root beer extracts by adding sufficient of the latter (from 1 to 4 fluidounces) to ½ gallon of syrup to impart the requisite flavor, then coloring with caramel. Some add a small amount of solution of citric acid.

See also "Root Beer (Ottawa) Syrup" and "Root Beer (Columbian) Syrup."

This syrup may be served with foam in a 12-ounce glass or "solid" in an 8-ounce glass.

A "quick process" Root Beer Syrup may be prepared as follows:

Sarsaparilla syrup (for fountain).fl.oz. 32
Wild cherry syrup.....fl.oz. 8
Fluid extract of pipsissewa.....fl.dr. 4
Soda foam.....sufficient

Root Beer (Columbian) Syrup.

Columbian root beer extract.....fl.oz.. 1½ to 2
Syrup.....fl.oz. 64

Color with caramel, acidify slightly with solution of citric acid, and add soda foam.

Serve like the other root beer syrups.

Root Beer (Ottawa) Syrup. (Ottawa Syrup.—Otaki Root Beer Syrup.)

Ottawa root beer extract.fl.oz. 1½ or 2
Syrup.....fl.oz. 64

Color with caramel and acidify slightly with solution of citric acid, about 2 fluidrams, and add soda foam.

This may be served with foam in a 12-ounce glass, or "solid" in an 8-ounce glass.

Root (Boston) Syrup.

Use for this any of the root beer syrups.

Rose Syrup.

I.

Rose extract.....fl.oz. 2
Syrup.....enough to make gal. ½
Soda foam.....sufficient

Color reddish, with one of the red colors mentioned in Chapter IV. It may be acidulated with solution of citric acid.

II.

Rose water.....fl.oz. 16
Sugar.....av.oz. 24
Soda foam.....sufficient

Dissolve the sugar by agitation or percolation, add the soda foam and color like the preceding.

Sarine Syrup.

This is prepared by flavoring syrup with sarine extract, coloring with caramel and adding soda foam.

Sarsaparilla Syrup.

I.

Sarsaparilla essence.....fl.dr. 4
Syrup.....fl.oz. 64
Caramel,
Soda foam.....of each, sufficient

II.

Fluid extract of sarsaparilla....fl.oz. 1
Fluid extract of licorice.....fl.dr. 4
Oil of wintergreen.....drops 10
Oil of sassafras.....drops 6
Syrup.....enough to make fl.oz. 64

III.

Sarsaparilla essence	fl.dr.	4
Fluid extract of sarsaparilla, simple or compound (for syrup)	fl.dr.	4
Or		
Fluid extract of American sarsaparilla (spikenard)	fl.oz.	1
Syrup	fl. oz.	64
Caramel		sufficient to color
Soda foam, if desired		sufficient

IV.

Sarsaparilla, coarse powder	av.oz.	8
Licorice root, coarse powder	av.oz.	8
Oil of anise	drops	10
Oil of wintergreen	drops	10
Oil of cinnamon	drops	2
Water		sufficient
Sugar	av.lb.	6

Digest the roots for twelve hours in 4 pints of warm water, and then put into a percolator and obtain 4 pints of percolate by adding sufficient water. Dissolve the sugar in this by the aid of a gentle heat. When the syrup is cold, rub the oils up with a little sugar and add to the syrup.

V.

Sarsaparilla, cut	av.oz.	6
Sassafras, coarse powder	av.oz.	1
Fluid extract of licorice	fl.dr.	6
Wintergreen essence	fl.oz.	1 to 1½
Water, hot	pints	3
Sugar	av.lb.	4½

Pour the water on the sarsaparilla and sassafras, macerate for 3 or 4 hours, strain, add the fluid extract, essence, and sugar, and dissolve the latter by agitation.

Sherbet Syrup.

This is usually served "solid" in 8-ounce glasses.

I.

White wine	fl.oz.	16
Lemon syrup	fl.oz.	16
Pineapple syrup	fl.oz.	32
Soda foam		sufficient

II.

Vanilla syrup	fl.oz.	36
Pineapple syrup	fl.oz.	12
Lemon syrup	fl.oz.	12
Soda foam		sufficient

III.

Orange syrup,
Pineapple syrup,
Vanilla syrup ..... equal parts of each

IV.

This syrup may also be prepared by flavoring syrup with sherbet essence, acidifying with solution of citric acid, coloring with red color, and adding soda foam.

Sherbet (Triple) Syrup.

Lemon essence	fl.dr.	2
Orange essence	fl.dr.	2
Pineapple juice	fl.oz.	4
Solution of citric acid	fl.oz.	2
Syrup	gal.	½

Color with solution of cochineal.

—C. E. Spayd, Toledo, O.

Spruce Beer Syrup.

This may be prepared by adding spruce beer extract to syrup, about 1 to 3 fluid-ounces of the former to 1 gallon of the latter, coloring with caramel, and adding sufficient soda foam.

This is to be served in a 12-ounce glass with foam.

Strawberry Syrup.

The color of strawberry syrup may be heightened by means of cochineal coloring or tincture of cudbear, but much better than either one is the juice of black raspberries or black cherries.

I.

Fresh, ripe strawberries	quarts	5
Sugar	av.lb.	12
Water	pint	1

Spread a portion of the sugar over the berries, arranging sugar and berries in layers, let stand for several hours, express the juice, and strain, washing out the marc with water; add the remainder of the sugar and water, raise to the boiling point and strain; bottle while hot and cork well. When wanted for use, mix with water and syrup, add 1 fluid-ounce of solution of citric acid to each gallon of syrup, and then soda foam sufficient.

II.

Strawberry syrup may also be prepared by putting about 2 quarts of good berries in a large wedgewood mortar, adding 1 av. pound of granulated sugar, triturating to a tolerably smooth condition, adding 1 quart of water, macerating for an hour or two, then straining, adding enough water through the strainer to make 4 pints of fluid. In this dissolve 5 pounds of sugar without heat, and strain. If the tint is not sufficiently bright

add a small amount of suitable red color, also solution of citric acid and soda foam as in the preceding.

III.

The syrup may also be prepared by adding from 12 to 24 fluidounces (according to taste) of fruit juice to enough syrup to make 1 gallon, and incorporating the same amount of solution of citric acid and soda foam as in the preceding, also coloring matter if desired.

IV.

This syrup may also be prepared from the extracts (see Chap. VI.), using enough of the latter to impart the desired flavor. Solution of citric acid, soda foam, and color should be added as before.

V.

An excellent syrup of strawberry flavor may be prepared by adding equal parts of pineapple and raspberry juices to syrup, using about 6 fluidounces of each of the juices to enough syrup to make 1 gallon. Solution of citric acid, soda foam, and color should be added as before.

VI.

CONCENTRATED SYRUP:

Bruise any convenient quantity of fruit to a pulp, and stir occasionally during 24 hours, press strongly and allow it to stand a few hours until the pulp, seeds, and other foreign matters have subsided. Then add 5 per cent alcohol, or, better, cologne spirit, which will usually cause a precipitation of albuminous matter; allow this to stand a few hours to subside, and filter. To each pint of the filtered juice add 1½ pounds granulated sugar and heat to boiling point; skim and bottle in clean dry bottles while still hot. The heat should not be continued beyond the point necessary to coagulate the albuminous substances contained in the juice, but it adds to the safety of the product, which sometimes ferments, or sours, to fill the bottle quite full while standing in hot water, and cork at once. The air is thus excluded, but its subsequent entrance must be guarded against by dipping the neck of the bottle in sealing wax, or, better, a mixture of 2 parts yellow wax and 1 part resin. The entire contents of a bottle should be used at once, when opened, and the syrup, beyond two or three days' supply, be kept in well-filled bottles in a cool place.

Tamarind Syrup.

Thoroughly disintegrate tamarind pulp, add an equal weight of water, press through a moderately coarse strainer, to each quart of liquid add 3 pounds of sugar, and dissolve.

Tea Syrup.

I.

Orange Pekoe or Souchong tea	av.oz. 1½
Sugar	av.oz. 28
Water,	
Soda foam	of each, sufficient

Heat 22 fluidounces of water to boiling, remove vessel from source of heat, add the tea leaves to the water, cover the vessel and allow leaves to infuse not to exceed 1 or 2 minutes; pour the liquid off into a filter, and if the filtrate does not measure 16 fluidounces pour sufficient cold water on the leaves, stir about for a moment, and decant into filter until filtrate measures 1 pint; in this filtrate dissolve the sugar by agitation or percolation, and to the solution add the foam.

II.

Black tea	av.oz. 3
Green tea	av.oz. 5
Water, boiling	sufficient
Sugar	av.oz. 36

Rub the mixed tea to coarse powder in a mortar; drop it loosely in a covered tin percolator; pour on 16 fluidounces of boiling water and cover tightly. Macerate for a few minutes and then percolate, continuing extraction with boiling water until 24 fluidounces of percolate are obtained, in which dissolve, by agitation, the granulated sugar. Use 1 fluidounce of this syrup mixed with 2 fluidrams of lemon syrup for each goblet of "iced tea," which may be made with soda water or plain ice water. Nos. I., III., IV. may also be employed for making iced tea in a similar manner.

III.

Black tea	av.oz. 3
Water, boiling	fl.oz. 16
Sugar	av.oz. 18
Vanilla extract	m. 30
Soda foam	sufficient

Pour the boiling water on the tea, allow to stand 30 minutes in closed vessel, press out gently, filter, and in 12 fluidounces of the filtrate dissolve the sugar. When cold add the vanilla extract and soda foam.

IV.

Tea extract	fl.oz.	2
Syrup	fl.oz.	30
Soda foam		sufficient

Teaberry Syrup.

This is the same as wintergreen syrup.

Tokay Lemonade Syrup.

Flavor syrup with Tokay lemonade extract, adding more solution of citric acid and red coloring if desired. About 2 fluidounces of extract will be required to make a pint of syrup.

It is to be served "solid" with carbonated water in 8-ounce glasses, or with plain water and ice in 12-ounce glasses.

Tonic Syrup.

Tonic extract	fl.oz.	1
Syrup	fl.oz.	15
Soda foam		sufficient

A small amount of solution of citric acid (about 1 or 2 fluidrams) may also be added.

This is to be served "solid" in 8-ounce glasses.

Tonic Beer Syrup.

This is prepared by adding 1 to 3 fluidounces of extract (see Chap. VI.) to 1 gallon of syrup, adding soda foam and coloring with caramel.

This may be served with foam in 12-ounce glasses or "solid" in 8-ounce glasses.

Turqua Syrup.

Orange juice	fl.oz.	2
Lemon juice	fl.oz.	1
Raspberry juice	fl.dr.	4
Angostura bitters	fl.dr.	1½
Solution of citric acid	fl.dr.	4
Syrup	enough to make fl.oz.	32
Soda foam		sufficient

Vanilla Syrup.

I.

This is prepared by adding vanilla extract to syrup. The respective amounts of the ingredients depend on the strength of the extract, which in turn depends on the quality of the vanilla used, the method of extraction, and care in manipulation. Simply enough vanilla extract should be added to the syrup until the mixture has the requisite degree of flavor. It is customary to tint the syrup a light brown by the addition of caramel, which latter is preferably used in the form of an aqueous solution, which mixes more readily with a syrup. To the syrup should be added sufficient soda foam.

Instead of plain syrup, some use cream syrup, omitting the caramel and foam.

II.

Vanilla syrup is improved by the addition of musk. The quantity of vanilla extract may be decreased about one-half and partially replaced by tincture of musk U.S.P., using about 1 fluidram of the latter to 1 gallon of syrup. Then add the caramel and soda foam as in the preceding. Of course, if the vanilla extract already contains musk, no further addition of the latter should be made to the syrup.

The syrup may be still further improved by the addition of about 10 to 15 drops of lemon essence to each gallon.

Vanilla Coffee Syrup.

Coffee syrup	fl.oz.	32
Vanilla syrup	fl.oz.	16
Soda foam		sufficient

Vanilla Cream Syrup.

I.

This may be prepared by flavoring a mixture of syrup and cream syrup, or syrup and cream, or syrup and rich milk (any desired proportions) with vanilla extract. Add no coloring or foam.

II.

Pure cream	pints	2
Sugar	av.lb.	2

Mix and dissolve. To serve, draw 2 fluidounces into a 12-ounce glass, a dash of vanilla extract, add some shaved ice and the fine stream of carbonated water.

—James J. Moore, Philadelphia, Pa.

Victoria Lemonade Syrup.

Raspberry syrup	fl.oz.	12
Black cherry syrup	fl.oz.	12
Currant syrup	fl.oz.	6

Vienna Garden Lemonade Syrup.

Raspberry syrup	fl.oz. 16
Currant syrup	fl.oz. 10
Lemon syrup	fl.oz. 3
Bordeaux wine	fl.oz. 3

Violet Syrup. (Syrup of Violets.)

Stronger tincture of orris	fl.oz. 2
Magnesium carbonate	av.oz. ½
Sugar	av.oz. 24
Water	fl.oz. 16
Soda foam	sufficient

Triturate the tincture with the magnesium carbonate until well mixed, add the water, again mix thoroughly, filter, in the filtrate dissolve the sugar by agitation or percolation, and add the soda foam.

The syrup may be colored grass green with chlorophyll, or bluish with litmus solution.

This syrup may also be prepared by flavoring syrup with violet essence, coloring like the preceding, and adding soda foam.

If the syrup be left uncolored it may be called "syrup of white violet."

Walnut Cream Syrup.

This is to be prepared exactly like hickory-nut cream syrup, substituting walnut kernels for the hickory-nut kernels of the latter.

Wild Cherry Syrup.

This may be prepared from the fruit, from the juice, from the essence, or from a mixture of juice and essence, as described under "Strawberry Syrup." It may also be prepared from the bark, according to the directions of the U. S. pharmacopœia for syrup of wild cherry, suitably diluting the latter and adding soda foam. Or the following may be employed:

Wild cherry bark, powder	av.oz. 2
Glycerin	fl.oz. 2
Sugar	av.oz. 20
Solution of citric acid	fl.oz. 1
Water	sufficient

Mix the glycerin with 8 fluidounces of water, moisten the powder with this liquid, macerate for 24 hours in a closed vessel, and then extract by percolation, using water as the menstruum, until 20 fluidounces of liquid are obtained. To the latter add the solution and sugar, dissolve the latter by agitation, and strain.

Wild Grape Syrup.

Wild grape juice	fl.oz. 5
Solution of citric acid	fl.dr. 2
Soda foam	sufficient
Syrup, enough to make	gal. ½

—F. W. Kisker, Cincinnati, O.

Wintergreen Syrup.

Flavor syrup with wintergreen essence, add sufficient soda foam, and color with caramel or with carmine solution.

Yum Yum Syrup.

Vanilla syrup	fl.oz. 3
Orgeat syrup	fl.oz. 2
Pineapple syrup	fl oz. 2
Orange wine	fl.oz. 1
Syrup, enough to make	fl.oz. 16

Zozia Syrup.

Absinthe essence	drops 15
Lemon essence	fl.dr. 1
Vanilla extract	fl.dr. 2
Angostura bitters	drops 15
Solution of citric acid	fl.dr. 1
Syrup, enough to make	fl.oz. 32
Soda foam and caramel	sufficient

CHAPTER IX.

MEAD, GINGER ALE, BEERS, WINES AND CIDERS.

Mead.

Mead, also known as Meth and Metheglin (and honey wine), was originally prepared by diluting honey with about 2 or 3 times its weight of hot water, and allowing fermentation to take place. Sometimes the fermentation was hastened by the addition of yeast; hops and spices were also added. The product was of a strongly spirituous character, containing about 8 per cent of alcohol.

True mead is still prepared as above outlined, but the modern mead of the soda fountain is something similar to the syrup of sarsaparilla, and may be prepared as a syrup (see "Syrups," Chap. VIII.) which may be mixed, like other flavors, with carbonated water when served, or it may be introduced into the fountain, mixed with water, and charged like soda water.

If the mead be used as a syrup it may be dispensed as described under "Mead Syrup." Instead of mixing the syrup with carbonated water when served, 1 to 1½ gallons of this syrup may be mixed in a 10-gallon fountain with enough water almost to fill the fountain, and the whole charged in the usual way.

New Orleans Mead.

The preceding may be dispensed under this name, or else the following may be employed:

I.

Tonka, bruised	gr.	90
Mace, bruised	gr.	90
Cloves, bruised	av.oz.	¾
Cinnamon, bruised	av.oz.	¾
Ginger, bruised	av.oz.	¾
Nutmeg, bruised	av.oz.	¾
Pimento, bruised	av.oz.	¾
Sassafras bark, bruised	av.oz.	3½
Syrup	gal.	2
Water	pints	2½
Honey	pints	1¼

Mix the tonka, mace, cloves, cinnamon, ginger, and nutmeg, tie loosely in a muslin bag, suspend in the syrup, and heat the latter to about 80 degrees C. for a few hours, the longer the better, providing the temperature is not too high.

Then add the sassafras and pimento (the latter may be omitted if desired) to the water, boil slowly until reduced to nearly 1½ pints, filter, add the previously obtained syrupy liquid, then incorporate the honey, and add enough syrup to make 2⅛ gallons.

This Mead Syrup may be served like other mead syrups (see preceding article), or one-half of the above amount, or 1¼ gallons, may be put into a 10-gallon fountain, the latter then filled with water, and charged in the usual manner to 100 pounds pressure.

II.

Tincture of Jamaica ginger	fl.dr.	4
Lemon essence	fl.dr.	4
Oil of cloves	drops	3
Oil of pimento	drops	3
Oil of cinnamon	drops	3
Oil of nutmeg	drops	2
Honey	fl.oz.	4
Simple syrup..enough to make	fl.oz.	32

Color with caramel.

—John C. Otis & Co., Cincinnati O.

Ginger Ale. (Ginger Beer.)

This, like mead, may be used in the form of a syrup (see "Syrups," Chap. VIII.) which is to be mixed with carbonated water when served, or it may be mixed in the fountain in the proportion of 1 to 1½ gallons of the syrup with enough water nearly to fill the fountain (10-gallon size) and then charged in the usual way. The ginger ale sold in bottles is made in the latter manner.

The following formulas may also be employed:

I.

Tincture of ginger, U.S P.....fl.oz.	7
Tincture of capsicum.....fl.oz.	3
Oil of lemon, fresh.....fl.dr.	1
Solution of citric acid.....fl.oz.	4
Sugar.....av.lb.	10
Water.....enough to make gal	10

Mix in the usual manner, and charge not to exceed 150 pounds pressure.

—Crystal Pharmacy, Pittsburg, Pa.

II.

Ginger ale extract, Vernor's....fl.oz.	4
Sugar, granulated.....av.lb.	9½
Solution of citric acid.....fl.dr.	4
Water, filtered.....gal.	10

Dissolve the sugar in the water cold, add the solution of citric acid and the extract, and strain through cloth into the fountain and charge with carbonic acid gas to 120 pounds.

Cost, $1.00. Retailed in 12-ounce glasses $6.00.

—James Vernor, Detroit, Mich.

III.

Jamaica ginger, bruised.....av.lb.	3
Yellow rind of fresh lemon peel.av.lb.	1
Capsicum.....av.oz.	4
Alcohol.....gal.	1

Of the tincture prepared from the foregoing add 3 fluidounces to each gallon of syrup.

If a ginger ale prepared by fermentation is desired, it may be prepared as follows:

I.

Brown sugar.....av lb.	1
Water, boiling.....gal.	1
Cream of tartar.....av.oz.	½
Ginger root, bruised.....av.oz.	1

Infuse the ginger with the boiling water, add the cream of tartar and sugar, and stir until the latter two are dissolved. When lukewarm, strain, and add ½ pint of good yeast. Let the mixture stand over night in a warm place, and it is then ready for bottling. If desired, 1 lemon and the white of an egg may be used to "fine" or clarify it.

II.

Sugar (white or brown).....av.lb.	2
Lemon juice.....fl.oz.	2
Ginger, bruised.....av.oz.	2¼
Water.....gal.	2
Yeast.....fl.oz.	8
Honey.....av.oz.	2
Essence of lemon.....fl.dr.	1

Boil the ginger 1 hour in 1 gallon of water, then add the rest of the water and the other ingredients, and strain it when cold. Add the white of one egg and the essence of lemon. Let stand 4 days in a warm place, and bottle.

III.

Ginger, bruised.....av.oz.	1
Cream of tartar.....av.oz.	¾
Sugar (white or brown).....av.lb.	1
Lemons, sliced.....1 to	3
Water, boiling.....gal.	1
Yeast....fl.oz. 2, or compressed, cake	1

Mix the ginger with the cream of tartar, add the other ingredients, let stand 12 hours in a warm place, bottle and securely cork.

The following is the formula for making ginger beer without yeast:

IV.

Sugar (white or brown).....av.lb.	1
Lemon juice.....fl.oz.	1
Honey.....fl.oz.	1
Ginger, bruised.....av.oz.	1¼
Water.....gal.	1
Lemon essence.....fl.dr.	½

Boil the ginger in 20 fluidounces of water for half an hour, then add the sugar, the juice, and the honey with the rest of the water, and strain through a cloth. When cold add the white of an egg and the essence of lemon. After standing 3 or 4 days bottle it.

V.

Ginger, Jamaica or African...av.oz.	1
Parsley root.....av.oz.	1½
Cream of tartar.....av.oz.	¾
Lemons, sliced.....	2
Sugar.....av.oz.	16
Water, boiling.....gal.	1

Mix the above, stir frequently until the mixture has a temperature about 100 degrees F., then add a cake of compressed yeast, and keep the whole in a moderately warm place. After 24 hours, strain, ferment another day or two, strain again, and bottle securely.

VI.

The following extemporaneous method may be employed:

Into a suitable bottle, having the capacity of about 12 fluidounces, put

Syrup of ginger.....fl.oz.	1
Syrup of lemon.....fl.dr.	2
Carbonated water.....	
.....sufficient to fill the bottle	

Cork the latter instantly, and secure the cork with twine or wire.

Birch Beer.

This may be prepared like root beer: 1, by mixing the syrup (see "Syrups," Chap. VIII.) with carbonated water at time of serving; 2, by mixing the syrup with water in the fountain in the proportion of 1 to 1½ gallons of the former to enough water nearly to fill the fountain, and charging the whole in the usual manner; or 3, by mixing the extract (see "Extracts and Essences," Chap. VI.) with water and sugar, or water and molasses, adding yeast, and allowing the mixture to ferment in a warm place.

Or use the following:

Princess pine leaves	av.oz.	3
Wintergreen herb	av.oz.	1½
Ginger	av.oz.	1
Water	gal.	1
Sugar	av.lb.	5
Birch or birch beer extract	fl.oz.	4

Ferment with yeast, or charge in fountain like ginger ale.

Ginger Ale Powder.

The so-called ginger ale powder may be made as follows: Mix ½ av. ounce of bruised ginger, ¾ av. ounce of cream of tartar, and 4 drops of essence of lemon, with as much sugar as will make the packet a presentable size. Put up the mixture in a neat package with a nice label, and sell to families for the purpose of making their own ginger ale. Direct that the powder be added to 1 gallon of boiling water containing 1 pound of white or brown sugar. When nearly cold, float a piece of toast on the liquid, on which place 2 or 3 tablespoonfuls of good yeast, or add a cake of compressed yeast, and set in a moderately warm place to ferment a day or two. Then strain and bottle. Keep the bottles in a cool place.

Gingerette.

Solution of citric acid	fl.oz.	2½
Essence of ginger	fl.oz.	1½
Essence of lemon	fl.dr.	2
Vanilla extract	fl.dr.	3
Tincture of capsicum	drops	20
Caramel	av.oz.	1
Syrup	fl.oz.	64

To one-half the syrup add the acid solution and all the essences and coloring, mix well by agitation; add the remainder of the syrup and shake well together, and if necessary pass through flannel bag, when it is ready for bottling.

This may be made into a beverage like ginger ale syrup.

Horehound Beer.

Horehound	av.oz.	8
Chamomile	av.oz.	2
Jamaica ginger, bruised	av.oz.	4
Licorice	av. oz.	1
Water	gal.	9
Sugar	av.lb.	4
Yeast, fresh	fl.oz.	8

Put the horehound, chamomile and ginger in an open gauze or coarse flannel bag, and let them boil together gently for two hours or longer, then remove all the liquid into a tub or large pan, and at about 80 deg. F., add the yeast. Stir the mixture, and let it stand with a cover over it for ten or twelve hours, after which put it into a cask to ferment, taking off the yeast as it arises at the bunghole. When fermentation is completed, "fine" with a little isinglass. It will be ready to bottle in twenty-four hours.

Hop Ale. (Hop Tonic.)

This may be prepared by flavoring syrup with hop ale extract or with beer extract No. I., and adding solution of citric acid and soda foam.

Serve "solid" in 8-ounce glasses.

Hop Beer.

I.

Hops	av.oz.	6
Ginger, bruised	av.oz.	1
Molasses	gal.	½
Water		sufficient

Pour 1 gallon water on the mixed hops and ginger, heat to boiling, boil for ½ hour, strain, and add water through the strainer to make the liquid measure 1 gallon. To the latter add the molasses, about ½ pound of bread which has previously been well browned dried, and reduced to coarse powder, and a pint of brewer's yeast or a cake of compressed yeast. Put the whole in a warm place until fermentation ceases, then draw off the clear liquid, put into bottles or a jug or keg, and keep in a cool place.

II.

Burdock root, bruised.....av.oz. 8
Or
Essence of sassafras..... fl.dr. 2
Hops.....av.oz. 1½
Corn meal, roasted brown.....av. oz. 4
Molasses,
Water.....of each, sufficient

Boil the hops, corn, and burdock (if latter is used) with 1½ gallons of water for ½ hour, strain, add enough water through the strainer to make 1½ gallons, add the molasses (and essence), using enough of the latter to make the mixture palatable but not too sweet, add the yeast, and ferment like the preceding.

Peruvian Beer.

This may be prepared like root beer or birch beer.

Pipsissewa Beer.

Pipsissewa, cut fine ..... av.oz. 12
Ginger, powder.....av.oz. 1
Brown sugar.....av.oz. 16
Water.....gal. 1
Yeast, compressed.....cake 1

Boil the pipsissewa with the water, strain, add sugar and ginger, and set aside in a warm place until fermentation begins, then bottle it for use.

Root Beer. (Root Ale.)

This, like mead and ginger ale, may be prepared from syrup (see "Syrups," Chap. VIII.) by mixing with carbonated water at the time of serving, or by mixing the syrup with water in a fountain, using 1 to 1½ gallons of the former to enough water nearly to fill the fountain (10-gallon size), and charging in the usual manner, or it may also be prepared by fermentation.

When made by fermentation, these directions should be followed:

Mix 4½ gallons of warm water with ½ gallon of molasses, or with 4 to 6 av. pounds of sugar, add 3 or 4 fluidounces of Root Beer Extract (see Chap. VI.) and a small cake of compressed yeast (or about 8 fluidounces of brewer's yeast), put the whole in a warm place for 2 or 3 days, or until fermentation is complete, and bottle.

Instead of using root beer extract in making root beer by fermentation, the following may be substituted for it:

Root Beer Powder.

I.

Sarsaparilla root.....av.oz. 1
Sassafras bark.....av.oz. 2
Wild cherry bark.....av.oz. 2
Wintergreen, or pipsissewa, or
birch bark.....av.oz. 2

This mixture should be ground to coarse powder, and may be put up in neat packages and offered for sale to families who desire to prepare their own root beer.

The directions should be as follows:

Macerate the contents of the package with 2 gallons of warm water for a few hours, then strain, add 4 to 6 pounds of sugar, or 2 to 3 quarts of molasses, and a cake of compressed yeast, or the equivalent in brewer's yeast, set aside in a warm place for 2 days, or until fermentation is completed, draw off the clear liquid and put into strong bottles, closing the latter tightly. Keep the bottles in a cool place. The white of an egg or a small amount of isinglass may be employed for clarification.

II.

Pipsissewa.....av.oz. 1
Dandelion.....av.oz. 1
Sassafras bark.....av.oz. 1
Spikenard.....av.oz. 1
Ginger, Jamaica.....av.oz. 1
Hops.....av.oz. 1

Mix, reduce to coarse powder, and put up in packages like the preceding.

The beer may be prepared as follows:

Add 3 gallons of boiling water and keep covered and hot, but not boiling, for 3 hours; cool partially; strain through a cloth, and add 5 pounds of white sugar (or ½ gallon of molasses or syrup) to the colature. When dissolved transfer to a large jar and make up to 5 gallons with water. Add ½ pint fresh brewer's yeast (or a cake of compressed yeast), stir, allow to remain in a moderately warm place, and in from 24 to 72 hours fermentation will be complete and it will be fit for use. Strain and bottle, keeping the bottled beer in a cool place. The beaten white of 1 egg or a small amount of isinglass may be employed for clarification.

III.

Sarsaparilla	av.oz.	2½
Spikenard	av.oz.	1
Wintergreen	av.oz.	½
Birch bark	av.oz.	½
Sassafras bark	av.oz.	½
Prickly ash bark	av.oz.	½
Wild cherry bark	av.oz.	¼
Jamaica ginger	gr.	60
Nutmeg	gr.	60

Put in packages and label like the preceding.

Sarsaparilla Beer.

I.

Sarsaparilla, cut small	av.oz.	16
Guaiac wood, rasped	av. oz.	2
Licorice root, cut small	av.oz.	2
Aniseed, bruised	av.oz.	1½
Cloves, bruised	av.oz.	¼
Sugar, brown or white	av.lb.	4
Water, hot	gal.	2

Mix in a stone or earthen vessel, keep in a moderately warm room, agitating from time to time, till active fermentation sets in, then allow it to repose for a week; decant, strain and bottle like the other beers, keeping the bottled beverage in a cool place.

II.

Sarsaparilla, bruised	av.oz.	8
Wintergreen or pipsissewa	av.oz.	4
Ginger, powder	av.oz.	2
Brown sugar	av.lb.	3
Water	gal.	2
Yeast, compressed	cake	1

Boil all the ingredients, except the sugar and yeast, with the water, strain, add the sugar, and, when dissolved, the yeast. Set aside until fermentation begins, then bottle for use.

Spruce Beer.

This, like root beer, may be prepared by mixing the syrup (see "Syrups," Chap. VIII.) with carbonated water at the time of serving, or by mixing in the fountain in the proportion of 1 to 1½ gallons of syrup to enough water nearly to fill the fountain, and charging in the usual manner, or by mixing the extract (see "Extracts and Essences," Chap. VI.) with water and sugar, or molasses, and allowing to ferment in a warm place. Other formulas for making spruce beer by fermentation are as follows:

I.

Essence of spruce	fl.oz.	1
Sugar, white or brown	av.lb.	2
Boiling water	gal.	2

Mix well, and when nearly cold, add of yeast half a wineglassful, or a small piece of compressed yeast; allow fermentation to proceed for 24 hours and bottle. Keep the bottled spruce beer in a cool place.

II.

Essence of spruce	fl.oz.	1
Ginger essence	fl.dr.	1
Oil of pimento	drops	2
Sugar	av.lb.	2
Water, hot	gal.	2

Mix well, and when nearly cold, add a cake of compressed yeast. Put in a warm place to ferment, and when fermentation is completed, strain and bottle. Keep the bottled beer in a cool place.

III.

Hops	av.oz.	1
Sassafras bark	av.oz.	1
Brown sugar	av.lb.	4
Essence of spruce	fl.dr.	4
Essence of ginger	fl.dr.	4
Pimento, bruised	av.oz.	½
Water	gal.	5

Boil the hops and sassafras with the water for ½ hour, add the other ingredients, put the whole in a cask and let cool; then add 4 fluidounces of brewer's yeast, or a cake of compressed yeast; let stand for 24 hours, "fine" with the white of an egg or small amount of isinglass, and bottle.

IV.

Essence of spruce	fl.oz.	2
Pimento, bruised	av.oz.	1½
Ginger, bruised	av.oz.	1½
Hops	av.oz.	1½
Sugar, brown or white	av.lb.	3
Water	gal.	3½

Boil pimento, ginger and hops, with 1 gallon of water, for ten minutes, then add the sugar (or molasses, ½ gallon), and the remainder of water warm; add also yeast, 4 fluidounces, or 1 cake of compressed yeast; after the liquor has fermented in a warm place about 24 hours, bottle it.

If more convenient, a few sprigs of spruce fir may be substituted for spruce essence in any of the above.

Tonic Beer.

Oil of wintergreen	drops 20
Oil of sassafras	drops 20
Oil of sweet orange	drops 20
Oil of pimento	drops 10
Alcohol	fl.oz. 2
Water, warm	gal. 5
Sugar	av.lb. 4

Dissolve the oil with the alcohol, add to the water and sugar, and ferment with a cake of compressed yeast in a warm place. Then strain and bottle.

Cider.

To make the best cider the fruit should be plucked by hand, and not beaten off with poles. The fruit should not be allowed to remain on the ground any length of time, as it thus contracts an "earthy" flavor. After "sweating" and before grinding, wipe the apples dry, throwing all bruised or partly rotten fruit in a pile by themselves, to be used for vinegar making, or for an inferior cider.

Have prepared, before starting in to grind, a suitable number of casks, provided, about one-third the way up, with a false bottom with small auger holes bored through it. Below this, close to the bottom, insert a wooden spigot. Cover the false bottom with one thickness of clean jute or hemp sacking (a gunny bag, well washed, will answer). As fast as the apples are ground, or as soon as the receiver fills, pour the pomace and juice into the cask thus prepared. Here it must remain one day, then draw off the juice collected at the bottom, and return it to the top of the receiver again, and continue to do this until the juice (about one-third of the total), comes from the spigot clear and bright. Set this juice aside and return the pomace to the press, the curb of which latter should be provided with a strainer. Some clean straw should be mixed with the pomace, layers being placed between layers of pomace. The juice will thus come from the press almost free from any solid material.

The first juice, entirely clear, resembling a rich syrup, may be used for making a first-class article of sweet cider, or may be mixed with that coming from the press. If the latter is done, the entire amount of juice is transferred to perfectly clean barrels, provided with wooden spigots placed about two or three inches above the bottom. Apply a loose wooden cover to keep out dust and insects, and let stand. Watch closely, and as soon as bubbles begin to rise, rack off, and put into barrels for fermentation. This will commence in from three to four days, and will proceed rapidly or slowly, according to the temperature of the room in which the liquid is kept. If it begins early and proceeds rapidly, the liquid must be again racked off and put into fresh clean barrels every day or two; but if it is late and slow, three or four days will be sufficient. Usually two rackings are required. If, however, fermentation goes on very rapidly, a third and even a fourth racking is necessary, as otherwise the vinous fermentation is converted into the acetous or vinegary fermentation, and the result will be vinegar instead of cider, or a very "hard" and acid cider will reward all your pains. Of course the barrels must be watched very closely and all scum, or "yeast," as it is called, carefully removed from the top of the liquid. This should be done frequently.

When the fermentation has ceased, have ready the containers, which must be scrupulously clean. Before racking the finished liquid off, pour some sweet oil into the vessel (4 ounces to the barrel), through the bunghole, and then fill the barrel completely. The oil spreads over the surface and prevents the oxidizing effects of the atmosphere. Put in your bung tightly, and your cider will keep indefinitely.

Cider should never be put into new or hitherto unused barrels or other wooden vessels, nor should beer casks ever be used. Old whisky or wine casks are the best.

American cider-makers do not, as a usual thing, observe the detail described, and as a consequence their product never compares favorably with the best "Normandy Cider." The plan usually adopted is to strain the liquid direct from the press through horse-hair sieves into open casks or vats. Here it is left a day or two to settle, and then drawn off into close casks, with a 6 or 8 inch hole sawed out on one side, to enable the

operator to skim off the scum that arises. Where the operation can be effected at a temperature of from 45 to 50 deg. F. this will answer tolerably well; but the results are never as good as by the first described process. In this process the liquor must be watched, and as soon as it appears to be tolerably clear and have a sharp vinous taste (an indication that the vinous fermentation has proceeded far enough), it must be racked off into open shallow vessels, and exposed to the air in a cool place for a day or two to stop fermentation.

Champagne Cider.

To every 8 gallons of sweet, still cider, add 2 pints of strained honey, or, in its absence, 2 av. pounds of loaf sugar, stir well, bung the cask and let stand for eight days. Add 5 fluidounces of skimmed milk or ⅓ av. ounce of dissolved isinglass, and immediately thereafter 2¾ pints of diluted alcohol. Let stand for four days, bunging the cask up tightly.

Orange Cider. (Orange Wine.)

Most of the preparations sailing under this name are not really orange ciders, but are varying mixtures of uncertain composition, possibly flavored with orange. The following are made by the use of oranges:

I.

Sugar	av.lb.	8
Water	gal.	2¾
Oranges		15

Dissolve the sugar in the water by the aid of a gentle heat, express the oranges, add the juice and rinds to the syrup, put the mixture into a cask, keep the whole in a warm place for 3 or 4 days, stirring frequently, then close the cask, set aside in a cool cellar and draw off the clear liquid.

II.

Express the juice from sweet oranges, add water equal to the volume of juice obtained, and macerate the expressed oranges with the juice and water for about 12 hours. For each gallon of juice add 1 pound of granulated sugar, grape sugar, or glucose, put the whole into a suitable vessel, covering to exclude the dust, place in a warm location until fermentation is completed, draw off the clear liquid, and preserve in well-stoppered stout bottles in a cool place.

III.

Orange wine suitable for "soda" purposes may be prepared by mixing 3 fluidounces of orange essence with 13 fluidounces of sweet catawba or other mild wine. Some syrup may be added to this if desired.

Quince Cider.

Take a quantity of ripe quinces, cut into quarters, and with the pips, etc., removed. Boil these in a copper with double their weight of water; when boiled to perfect softness pour the must into a vat. To this add, for every 50 pints of must, 2 pounds of sugar and ½ pound of yeast, diluted in a sufficiency of hot water. Mix the whole well together, and allow to ferment. Then strain and bottle.

Apple Wine.

Put 40 av. pounds of sugar into 15 gallons of cider that is pure, and that has been made only from really ripe, sound apples (this is important). If the wine is to be quite sweet, add another 10 av. pounds of sugar; let the sugar dissolve. Put this mixture into a cask, but leave it unfilled to the extent of 2 gallons. Put the cask in a cool place with the bung out for 48 hours. After this, bung it up, but let there be a small vent somewhere until the fermentation is over; then bung up quite securely, and the wine will be ready in 12 months for consumption. No racking is required in the manufacture of this wine.

Fruit Wines.

A general recipe for making wine from ripe, sweet berries of all kinds is as follows:

Ripe fruit	av.lb.	6
Soft water	gal.	1
Sugar	av.lb.	3
Saturated solution of cream of tartar in water	fl.oz.	1¼
Brandy or whisky enough to make 3 per cent of the whole		

Separate the fruit from all rotten or unripe berries, sticks, leaves, etc., and wash the remainder with gentle pressure to avoid crushing the seeds, etc., in a clean, wooden vessel. Pour the whole into a larger vessel, add the water, and allow to macerate for 48 hours, stirring frequently. Strain through a coarsely meshed cloth, wringing the residue so as to express all of the fluid possible. To

the liquid thus obtained add the sugar and solution of cream of tartar, stir until the sugar is dissolved, and pour into a clean barrel or keg, which it should nearly or quite fill, and which has a hole cut through one or more of the staves of sufficient size to permit of skimming off the scum which rises while fermentation is in progress. After 4 or 5 days of fermentation (which sets up very rapidly in warm weather) rack off into a cask or keg, which should be filled to the bung-hole, the latter being left open for one week thereafter.

Many persons add flavoring of some kind to their domestic wines, and on the judgment with which this is done depends, in a great measure, the delicacy of taste and bouquet of the product. If the flavoring is used it should be added the seventh or eighth day after transferring to the cask. Allow to ferment one week longer, and add sufficient brandy or old whiskey free from fusel oil to replace the loss by evaporation, etc. Put in the bung lightly, and from time to time add the liquor until a total amount of about 3 per cent has been added, replacing the bung each time, and when the last of the liquor has been added, drive in the bung very tightly.

After several weeks, the time varying according to the weather, open and withdraw a sample of the wine. If it is clear and bright it may be racked off into bottles. If muddy it must be "fined" in the usual manner with egg albumen or isinglass.

Grape Wine.

Gather the fruit by degrees, as it ripens, not picking all the fruit required at once, because the grapes must not be over ripe or unripe, but just in a state of perfection. Every second day or so pick the fruit that is ready, and spread it in a shady place, that the heat may not cause it to burst. When sufficient is gathered put the grapes into a tub and mash them with the hands. When they have been brought to a pulp run off the liquid through a tap—the tub should be furnished with one, about two inches from the bottom—into another tub, over which a cloth has been tied; then let the liquid run gently through. Remove the pulp from tub No. 1, and subject it to a gentle pressure until the remainder of the juice has been extracted. Drain this into tub No. 2, through a cloth, as before. Have ready a thoroughly well cleaned-out cask and pour the liquid into it through a hair sieve, put a slate over the bung-hole, and leave it to ferment for about a fortnight. Then rack off into another cask, put the slate over the bung-hole as before until the fermenting process is quite over; then bung down tightly. Keep at least eight months in the wood before bottling. Seal the corks over, and keep a year more before use. If a sweet wine is wanted add loaf sugar in the proportion of 2 av. ounces to every pint of juice before straining into the cask.

Raisin Wine.

Tartaric acid	av.oz.	2
Tannic acid	av.oz.	2
Raisins	av.lb.	2½
Sugar, granulated	av.lb.	8
White wine	gal.	2
Water	gal.	10
Alcohol	fl.oz.	12

Dissolve the acids and sugar in a portion of the water, add the raisins and wine and sufficient yeast to start fermentation; keep in a warm place, and after fermentation has proceeded for a day or two add the alcohol.

Rhubarb Wine.

Cut the unpeeled rhubarb stalks (selecting those only which bear fresh green leaves) into small cubes, and in a suitable vesssel, and pour on a small amount (measured) of water. Put on the stove and boil soft, until a magma results, as for pie filling. In a wine press separate the juice. Now weigh out some sugar, allowing 6 pounds for each gallon of plant juice, deducting, however, the amount of water added, and dissolve it in enough water (2 pints for each 3 pounds) to make a concentrated syrup, and add to the juice. The proceedings after this are as for grape wine. Fill a barrel to the bung-hole, and in a warm place allow to ferment, replacing the overflow with sweetened water. When, after several weeks, fermentation ceases, close the bung-hole and store the bar-

rel in a cellar. After 12 months reopen the barrel and allow the second fermentation to proceed.

A rhubarb beverage (not fermented) may be prepared as follows:

Boil some rhubarb with sugar, a pinch each of cinnamon and nutmeg, and a little each of fresh lemon juice and peel. When completely boiled to a pulp rub it through a sieve, strain and finally filter through a jelly bag. Bottle, cork, tie down, and stand in a cool, dark place. Quantities for the ingredients cannot well be given, because so much depends upon individual taste. This can be taken with either plain water, carbonated water, or as a syrup, and will be found refreshing and healthful.

Ginger Champagne.

To manufacture, say 10 gallons, there are first placed 9 gallons of cold water in a copper boiler, to which are added 26 av. pounds of the finest raw sugar, and 13 av. ounces of bruised ginger. The mixture is then heated and allowed to boil gently for about half an hour, during which time the scum rising from the surface must be taken off. After this has been done, the liquid must be drawn off and allowed to cool, and, after the temperature has been reduced to about blood heat, it is placed in a cask, in which the following articles have been previously put, namely, 6 av. pounds of raisins, cut into small pieces, 1 dozen of oranges, and 1 dozen of lemons, sliced thin. There must then be added to the liquid in the cask about 5 fluid-ounces of yeast, and the whole allowed to ferment. After the fermentation has ceased, there is added to the liquid 1 quart of diluted alcohol and 1 av. ounce of isinglass for the purpose of fining; eggs may be substituted for the isinglass, which, however, is preferable. The whole is then mixed well, and the cask fastened up for about one month, when the liquid is racked off into another cask and bottled.

The predominating flavor of this liquor will be ginger and champagne, and it is, therefore, called "ginger champagne." But the use of the ginger may be dispensed with altogether, and the quantity of oranges increased; that is, 3 dozen instead of 1 dozen. The drink will then be "orange champagne." Or, instead of increasing the quantity of oranges, about three times the quantity of lemons may be used, in which case "lemon champagne" will be the result.

Cider Vinegar.

A new method by which sour cider or other liquids of a proper character are converted into vinegar in a manner much more expeditious than the methods most in vogue, is as follows: First, all the casks or barrels are thoroughly cleansed and scalded. Boiling water is first used, and boiling vinegar afterwards, and the barrels are rolled about and left standing 3 days, to facilitate the absorption of the vinegar by the wood. After this treatment, by way of preparation, the barrels are filled about one-third full with strong, pure cider vinegar, and 2 gallons of cider are then turned in. Two gallons of cider are added every eight days, until the barrel or cask is two-thirds full. After a lapse of 14 days after the adding of the last 2 gallons of cider the process is complete, and as a result the entire contents of the cask or barrel are converted into vinegar. One-half of this is now drawn off, and the process of filling with cider is again continued. In summer the barrels should be left exposed to the light and heat of the sun while the process is being conducted, and in winter they should be stored where a temperature of about 80 degrees F. (27 C.) can be maintained.

CHAPTER X.

PHOSPHATES AND LACTARTS.

The necessary or essential constituent of all the beverages now in such extended use and commonly known as "phosphates" is solution of acid phosphates, which may be prepared according to one of the formulas given herewith.

Solution of Acid Phosphates. ("Acid Phosphates." — Compound Solution of Phosphoric Acid. — Compound Phosphate Solution.)

I.

Bone ash	av.oz. 8
Sulphuric acid	av.oz. 6
Water	fl.oz. 32

Mix the bone ash with 8 fluidounces of water, add the acid previously diluted with 16 fluidounces of water, mix thoroughly with a glass or porcelain stirrer, incorporate the remainder of the water, and set the mixture aside for 24 hours, agitating occasionally. Then transfer the mixture to a strong muslin strainer, and subject to pressure, avoiding contact with metals, so as to extract as much liquid as possible. Lastly filter the liquid through paper. The acid used in this preparation may be the commercial variety, provided it is free from arsenic and of a specific gravity not less than 1.83.

The vessel used in making this preparation must be of glass or other material not acted upon by the acid.

II.

Chalk, precipitated	gr. 740
Magnesia, calcined	gr. 230
Potassium carbonate,	gr. 300
Phosphoric acid, syrupy (85 per cent, or U. S. P.)	fl.oz. 7
Or	
Phosphoric acid (50 per cent).	fl.oz. 12
Water enough to make	fl.oz. 32

Mix the acid with enough water to make 16 fluidounces, and add the chalk gradually and with constant stirring. When effervescence has ceased, add the magnesia in the same way, and then the potassium carbonate. Finally add the remainder of the water, stir well and filter.

III.

Sometimes the proportions in the preceding are altered as follows:

Chalk, precipitated	gr. 610
Magnesia, calcined	gr. 310
Potassium carbonate	gr. 300
Phosphoric acid (50 per cent).	fl.oz. 8
Or	
Phosphoric acid, U. S. P., (85 per cent)	fl.oz. 5
Water enough to make	fl.oz. 32

IV.

Chalk, precipitated	gr. 240
Magnesium carbonate	gr. 240
Potassium bicarbonate	gr. 240
Phosphoric acid, syrupy, (85 per cent, or U. S. P.)	fl.oz. 4
Or	
Phosphoric acid (50 per cent).	fl.oz. 7
Water enough to make	fl.oz. 32

Prepare like the preceding.

V.

Calcium phosphate	av.oz. 1¼
Magnesium phosphate	gr. 512
Potassium phosphate	gr. 384
Phosphoric acid, syrupy, (85 per cent, or U. S. P.)	fl.dr. 13
Or	
Phosphoric acid (50 per cent).	fl.dr. 22
Water enough to make	fl.oz. 32

Mix, dissolve and filter.

VI.

Calcium phosphate	gr. 60
Magnesium phosphate	gr. 40
Sodium phosphate	gr. 20
Potassium phosphate	gr. 20
Phosphoric acid, U. S. P.	fl.oz. 2
Water enough to make	fl.oz. 32

Mix, dissolve and filter.

VII.

Some employ a solution of citric or tartaric acid, or dilute phosphoric acid, instead of the solution of acid phosphates, and there are in the market some so-called substitutes for the latter which consist usually of tartaric acid, sometimes of various mineral acids. None of these mixtures should ever be employed. There is less objection to the use of dilute phosphoric acid, as the acid phosphates contain some free phosphoric acid.

Of the above-mentioned formulas Nos. I., II., III. and IV. should be preferred, as they produce preparations almost like V. and VI., and at less cost. Of the four, Nos. II. III. and IV. are more easily and quickly prepared, but No. I. is the cheapest of all, and keeps better than Nos. II., III. or IV.

Solution of Acid Phosphates with Iron.

Sometimes it may be desirable to use an "acid phosphate" containing iron, which may be prepared as follows:

Iron citrate, soluble.....gr.	64
Chalk, precipitated .....gr.	144
Potassium bicarbonate ..... gr.	72
Sodium phosphate.....gr.	64
Phosphoric acid, 50 per cent ..fl.oz.	4
Or	
Phosphoric acid U.S.P. (85 per cent).....fl.oz.	2½
Water..... enough to make fl.oz.	16

Mix the acid with enough water to make 12 fluidounces, and gradually add the chalk, followed by the potassium and sodium salts, stirring constantly until solution is effected. Dissolve the iron citrate in 4 fluidounces of water by the aid of heat, allow the liquid to cool, add to the preceding mixture, allow the whole to stand for several days and filter.

Serving "Phosphates."

"Phosphates" are served "solid," i.e., without foam. The proper method is to draw an 8-ounce glass seven-eighths full (within about ¾ inch of the top) of carbonated water, then filling the glass with syrup, about 1 fluidounce, adding 1 or 2 fluidrams of solution of acid phosphates, and stirring with a spoon. The syrup employed must be the one corresponding with the "phosphate" desired, lemon syrup for lemon "phosphate," orange syrup for orange "phosphate," etc. The "phosphate" may be kept in a bottle and the proper quantity measured into a small graduate, or it may be kept in a bottle with a squirt top, the proper amount of solution to be dashed into the syrup.

Any of the so-called Fruit (and other) "Phosphates" may be served as indicated above or as given below.

Phosphate Syrups.

Instead of using syrup and "acid phosphates" as above directed, so-called phosphate syrups may be used. These consist of syrup to which is added the usual amount of flavor (fruit juice or essence) as described in Chapter VIII., omitting the soda foam, and adding 2 to 4 fluidounces of "acid phosphates" to every ½ gallon of syrup. Lemon phosphate syrup, for example, would be made by flavoring syrup with lemon essence and adding the solution of acid phosphates.

The "phosphates" most frequently demanded are wild cherry, lemon and orange, although grape, raspberry, pineapple and strawberry are also used largely.

Fancy phosphates should be served in a similar manner in large (12 or 14 ounce) glasses, with cracked or shaved ice and straws, and dressing with fruit of the same flavor (if a fruit phosphate).

Almond Phosphate. (Noyeau Phosphate.)

Prepare like other "phosphates," flavoring with almond syrup.

Amazon Phosphate Syrup.

Amazon bitters.....fl.oz.	4
Rose essence.....fl.oz.	1
Vanilla extract .....fl.oz.	1
Lemon essence.....fl.oz.	1
Syrup.....enough to make fl.oz.	32

Serve like the other "phosphate" syrups.

Apricot Phosphate Syrup.

Apricot syrup.....fl.oz.	24
Peach syrup .....fl.oz.	4
Orgeat syrup.....fl.oz.	2
Solution of acid phosphates....fl.oz.	2

Serve as described above.

Apricot "phosphate" may be served by mixing apricot syrup, solution of acid phosphates and carbonated water in an 8-ounce glass, as described under "Serving Phosphates."

Arabian Phosphate.

Prepare like other "phosphates," using mead syrup for flavoring.

Banana Phosphate.

Prepare like other "phosphates," using banana syrup for flavoring.

Birch Phosphate.

Prepare like other "phosphates," using birch syrup for flavoring.

Blackberry Phosphate.

Prepare like other "phosphates," using blackberry syrup for flavoring.

Calisaya Phosphate Syrup.

Elixir of cinchona	fl.oz. 3
Solution of acid phosphates	fl.oz. 2
Orange essence	fl.oz. 1
Simple syrup, U.S.P., enough to make	fl.oz. 32

This preparation may be prepared stronger in cinchona if desired. It may be colored with red coloring (see Chap. IV.). A quick process consists in mixing the elixir with 3 parts of orange or blood orange syrup, and adding solution of acid phosphates.

The Elixir of Cinchona used may be the preparation of the National Formulary known by this name, made according to this formula:

Detannated tincture of cinchona	fl.oz. 2½
Glycerin	fl.oz. 2
Simple syrup, U.S.P.	fl.oz. 2
Aromatic (simple) elixir, enough to make	fl.oz. 16

Or, instead of elixir of cinchona, may be employed the Compound Elixir of Quinine, prepared as follows:

Quinine sulphate	gr. 16
Cinchonidine sulphate	gr. 8
Cinchonine sulphate	gr. 8
Aromatic elixir	fl.oz. 16

Mix, dissolve by agitation and filter.

Instead of the alkaloidal salts mentioned in the preceding, a mixture of 10 grains of quinine sulphate and 20 grains of cinchonidine sulphate may be employed.

Either of these mixtures should be colored with ½ fluidounce of compound tincture of cudbear (see Chap. IV.) before filtering.

Instead of the syrup given above, the following may be employed:

Rose syrup	fl.oz. 9
Cinnamon syrup	fl.oz. 4
Elixir of cinchona or compound elixir of quinine	fl.oz. 2
Solution of acid phosphates	fl.oz. 1

Calisaya Phosphate Syrup, New York.

Elixir of calisaya	fl.oz. 8
Red orange syrup	fl.oz. 24
Solution of acid phosphates	fl.oz. 2

Serve like the preceding.

Calisaya Acid Phosphate Syrup.

Compound tincture of cinchona	fl.oz. 3
Tincture of cinnamon	fl.oz. 3
Tincture of vanilla	fl.oz. 1
Tincture of serpentaria	fl.dr. 4
Compound tincture of gentian	fl.dr. 2
Compound tincture of cardamom	fl.dr. 2
Fluid extract of wild cherry	fl.dr. 2
Glycerin	fl.oz. 2
Solution of acid phosphates	fl.oz. 4
Elixir of calisaya (from alkaloids —see preceding formula)	fl.oz. 12
Oil of orange	drops 24
Simple syrup	fl.oz. 1½
Claret wine enough to make	gal. ½

Serve ½ to 1 fluidounce "solid" in an 8-ounce glass, filling the latter with carbonated water. A small amount of plain syrup may be added if desired.

—G. G. C. Simms, Washington, D. C.

Calisaya-Malt Phosphate Syrup.

(Malt Tonic Phosphate.)

Elixir of cinchona or compound elixir of quinine (see Calisaya Phosphate Syrup)	fl.oz. 3
Malt extract	fl.oz. 4
Solution of acid phosphates	fl.oz. 2
Red orange syrup, enough to make	fl.oz. 32

A small portion of the orange syrup may be replaced by cinnamon syrup.

This syrup may be prepared from calisaya phosphate syrup by replacing a portion of the syrup of the latter with malt extract.

It is to be served like other "phosphate" syrups.

Catawba Phosphate.

This is to be prepared like other "phosphates," using catawba syrup for flavoring.

Celery Phosphate Syrup.

I.

This may be prepared by flavoring syrup with celery essence (see Chap. VI.) and adding about 1 fluidounce of solution of acid phosphates to 1 quart of this syrup. Instead of syrup, lemon syrup may be used.

This "phosphate" syrup is to be served like others as described above.

Celery "phosphate" may also be served by making a lemon "phosphate" in the usual manner, adding several dashes of celery essence contained in a squirt-top bottle, and stirring with a spoon.

II.

Or prepare a syrup as follows:

Lemon syrup.....fl.oz. 6
Orange syrup.....fl.oz. 3½
Essence of violets.....fl.oz. ½
Fluid extract of celery seed.....fl.dr. 1

Draw 1 fluidounce in an 8-ounce glass, add 2 dashes of acid phosphate, fill with coarse stream of carbonated water, pour from one glass to another, and serve with straws.

—Jos. J. Keller, Rochester, N. Y.

Central Park Phosphate.

Pineapple syrup.....fl.oz. 1
Red orange syrup.....fl.oz. 1
Solution of acid phosphates,
.....about dashes 6
Carbonated water, enough to fill 8-ounce glass.
Serve "solid."

—L. C. Hatchek, Chicago, Ill.

Cherry Phosphate. (Tame Cherry Phosphate.)

A cherry (not wild cherry) phosphate may be dispensed by serving cherry syrup made from cherry juice. A Cherry Phosphate Syrup may be prepared from cherry juice (or essence, or mixed juice and essence—see Chap. VIII.), solution of acid phosphates (2 to 4 fluidounces to ½ gallon of product) and syrup. A richer product will be obtained by adding some raspberry syrup to this mixture.

Cherry Orange Phosphate.

This is prepared from 2 parts of orange syrup and 1 of wild cherry syrup, and is served like other "phosphates." A Cherry Orange Phosphate Syrup may be prepared by mixing the two syrups in the proportions above given, and adding 2 to 4 fluidounces of solution of acid phosphates to ½ gallon of syrup, omitting soda foam from the latter.

Chocolate Phosphate.

This is to be served like other "phosphates," using chocolate syrup for flavoring.

Claret Phosphate Syrup.

I.

Claret wine.....fl.oz. 4
Orange essence.....fl.dr. 1 or 2
Solution of acid phosphates....fl.oz. 2
Syrup.....enough to make fl.oz. 32

This is to be served like other "phosphate" syrups.

II.

Claret wine.....fl.oz. 8
Solution of acid phosphates.....fl.oz. ½
Syrup.....enough to make pints 2

Serve like other "phosphate" syrups, "solid" in 8-ounce glasses.

—F. W. Kisker, Cincinnati, O.

III.

Claret wine.....fl.oz. 24
Water.....fl.oz. 8
Solution of citric acid.....fl.oz. 1
Sugar.....av.lb. 3

Draw 1½ fluidounces in an 8-ounce glass, fill the latter with carbonated water and serve "solid."

—W. A. Bishop, Savannah, Ga.

Coca Phosphate.

This is to be prepared like other "phosphates," using coca syrup for flavoring.

Coca Phosphate Syrup may be prepared by adding 1 fluidounce of solution of acid phosphates to 15 fluidounces of coca syrup, the latter being prepared without soda foam. In dispensing serve like the preceding, but use no acid phosphate solution.

Coca Egg Phosphate.

See Chapter XI.

Coca-Malt Phosphate Syrup.

Malt extract, thick.....fl.oz. 4
Vanilla syrup.....fl.oz. 4
Rose syrup.....fl.oz. 4
Orange syrup.....fl.oz. 2
Cinnamon syrup.....fl.oz. 2
Solution of acid phosphates....fl.oz. 2
Coca syrup....enough to make fl.oz. 32

This is to be served like other "phosphate" syrups.

Cranberry Phosphate.

This is to be served like other "phosphates," using cranberry syrup for flavoring.

If desired, Cranberry Phosphate Syrup may be used, which may be prepared by adding ½

to 1 fluidounce of solution of acid phosphates to one pint of cranberry juice, made without soda foam. This is to be served like other "phosphate" syrups.

This "phosphate" may be improved by adding a small amount of lemon syrup.

Currant Phosphate Syrup.

Currant syrup	fl.oz. 26
Raspberry syrup	fl.oz. 4
Solution of acid phosphates	fl.oz. 2

Serve like other "phosphate" syrups. It may be served also by mixing currant syrup, solution of acid phosphates and carbonated water as required.

Egg Phosphates.

Coca Egg Phosphate.

Egg Sherbet Phosphate.

See Chap. XI.

Fruit Phosphate Syrup.

Strawberry syrup	fl.oz. 8
Pineapple syrup	fl.oz. 8
Cherry syrup	fl.oz. 7
Pear syrup	fl.oz. 7
Solution of acid phosphates	fl.oz. 2

This is to be served like other "phosphate" syrups.

Fruit Iron Phosphate Syrup.

Iron pyrophosphate, phosphate or citrate, soluble	gr. 120
Water	fl.oz. 2
Wild grape juice	fl.oz. 3
Orange wine	fl.oz. 3
Orange essence	fl.dr. 1
Diluted phosphoric acid	fl.oz. 1 or 2
Syrup, enough to make	fl.oz. 32

Dissolve the iron salt in the water by the aid of heat and add the remaining ingredients.

Serve like other "phosphate" syrups.

Gentian Phosphate Syrup.

Elixir of gentian	fl.oz. 4
Solution of acid phosphates	fl.oz. 2
Syrup, enough to make	fl.oz. 32

The mixture may be flavored with vanilla, lemon or orange. It may also be made stronger in gentian if desired.

Ginger Phosphate Syrup.

Ginger essence, soluble	fl.oz. 1
Lemon essence	fl.dr. 2
Solution of acid phosphates	fl.oz. 2
Syrup, enough to make	fl.oz. 32

This should be dispensed like other "phosphate" syrups.

This syrup may also be prepared by mixing 12 fluidounces of ginger syrup, 3 of lemon syrup, and 1 of solution of acid phosphates.

Ginger-Malt Phosphate Syrup.

Malt extract	fl.oz. 4
Ginger essence	fl.dr. 4
Lemon essence	fl.dr. 2
Solution of acid phosphates	fl.oz. 2
Syrup, enough to make	fl.oz. 32

Serve like other "phosphate" syrups.

Gooseberry Phosphate.

This is to be prepared like other "phosphates," using gooseberry syrup for flavoring.

Grape Phosphate.

This is served like the other "phosphates," as described above. If a Grape Phosphate Syrup is desired, it may be prepared by adding 2 to 4 fluidounces of solution of acid phosphates to ½ gallon of grape syrup, omitting soda foam from the latter.

Grape (California) Phosphate Syrup.

Wild grape juice	fl.oz. 6
Raspberry juice	fl.oz. 1
Cranberry juice	fl.oz. 1
Orange essence	fl.dr. 4
Lemon essence	fl.dr. 2
Solution of citric acid	fl.dr. 4
Syrup, enough to make	gal. ½

Serve like other "phosphate" syrups.

—Hotel Pfister Drug Store, Milwaukee, Wis.

Iron Phosphate Syrup.

Iron pyrophosphate or phosphate	gr. 40
Water, hot	fl.oz. 1
Glycerin	fl.oz. 2
Angostura bitters	fl.oz. 1
Syrup, enough to make	fl.oz. 32

Dissolve the iron salt in the water and add the remaining ingredients.

It is to be served like other "phosphate" syrups.

Kola Phosphate Syrup.

Fluid extract of kola	fl.oz. 1
Lemon essence	fl.dr. 4
Vanilla extract	fl.dr. 6
Solution of acid phosphates	fl.oz. 2
Simple syrup, U. S. P., enough to make	fl.oz. 32

This may also be prepared as follows:

Lemon syrup	fl.oz. 14
Vanilla syrup	fl.oz. 13
Solution of acid phosphates	fl.oz. 2
Fluid extract of kola	fl.oz. 1

This "phosphate" syrup is to be served like others as described above.

Kola Phosphate Tonic.

I.

Fluid extract of kola	fl.oz. 1
Calisaya phosphate syrup	fl.oz. 10
Ginger syrup	fl.oz. 8
Syrup	enough to make fl.oz. 32

Serve in 8-ounce or 12-ounce glasses; it may be served with ice.

See also "Kola Cinch," Chap. XIV.

II.

Wine of kola	fl.dr. 4
Elixir of calisaya	fl.oz. ½
Solution of acid phosphates	fl.dr. 1
Ginger syrup	fl.dr. 4
Syrup	fl.dr. 4

Draw into an 8-ounce glass and fill latter with coarse stream of carbonated water. Serve "solid."

—Hazard, Hazard & Co., New York, N. Y.

Kola-Coca-Malt Phosphate Syrup.

Fluid extract of kola	fl.oz. 1
Malt extract	fl.oz. 4
Solution of acid phosphates	fl.oz. 2
Elixir of calisaya	fl.oz. 1
Orange wine	fl.oz. 2
Rose essence	fl.dr. 1
Coca syrup	fl.oz. 7
Vanilla syrup	fl.oz. 7
Syrup	enough to make fl.oz. 32

Serve like other "phosphate" syrups.

Kola-Malt Phosphate Syrup.

Malt extract	fl.oz. 4
Fluid extract of kola	fl.oz. 1
Pineapple syrup	fl.oz. 2
Lemon syrup	fl.oz. 2
Solution of acid phosphates	fl.oz. 2
Vanilla syrup	fl.oz. 16
Syrup	enough to make fl.oz. 32

Serve like other "phosphate" syrups.

Lemon Phosphate.

This may be served in the usual way for "phosphates" as described above. A Lemon Phosphate Syrup may be prepared by adding the requisite quantity of solution of acid phosphates (2 or 4 fluidounces) to ½ gallon of lemon syrup (see Chap. VIII.), omitting soda foam from the latter. This syrup may be improved by adding about ⅛ the volume of pineapple syrup.

Lime Fruit (or Juice) Phosphate Syrup.

Lime juice	fl.oz. 4
Solution of acid phosphates	fl.dr. 4
Lime essence	fl.dr. 2
Syrup	enough to make fl.oz. 32

The lime essence may be replaced by 4 fluidrams pineapple syrup. This is to be served like other "phosphates."

Malt Phosphate Syrup.

Malt extract	fl.oz. 4
Vanilla syrup	fl.oz. 8
Syrup	fl.oz. 20
Solution of acid phosphates	fl.oz. 2
Almond essence	fl.dr. 2 to 4

The color of the mixture may be deepened by the addition of caramel.

The malt extract employed should be the thick variety made according to Liebig's process (see U. S. P. 1880, or revised edition of National Formulary).

This "phosphate" is to be served like the others as described above.

Malt Bitters Phosphate Syrup.

Malt bitters	fl.oz. 10
Rose syrup	fl.oz. 10
Elixir of cinchona	fl.oz. 2
Solution of acid phosphates	fl.oz. 2
Vanilla syrup	enough to make fl.oz. 32

Serve like other "phosphate" syrups.

Malt-Cocoa Phosphate Syrup. (Malt Chocolate Phosphate.)

Chocolate syrup	fl.oz. 20
Malt extract, thick	fl.oz. 4
Vanilla syrup	fl.oz. 6
Solution of acid phosphates	fl.oz. 2

The vanilla syrup may be reduced or omitted and the chocolate syrup increased; cinnamon syrup or cinnamon essence may be added if desired.

This "phosphate" syrup is to be dispensed like all others.

Malt-Iron Phosphate Syrup.

This may be prepared from malt phosphate syrup by adding to each pint of the latter about 15 grains of iron pyrophosphate or about 1 fluidram of solution of iron citro-chloride.

This is to be served like malt "phosphate" syrup.

Malt Wine Phosphate Syrup.

Malt wine.....fl.oz. 8
Simple elixir.....fl.oz. 4
Solution of acid phosphates....fl.oz. 2
Syrup.....enough to make fl.oz. 32

Serve like other "phosphate" syrups.

Mint Phosphate Syrup.

This may be prepared by adding 1 to 2 fluidrams of peppermint essence (spirit of peppermint U.S.P.) to 1 quart of syrup, and adding 1 to 2 fluidounces of solution of acid phosphates. The mixture may be colored a pale green by adding a tincture made by macerating fresh (green) peppermint leaves with alcohol. In the absence of green mint, some other green coloring may be employed, such as tincture of grass, or solution of indigo-carmine (see Chap. IV.).

This syrup is to be served like the other "phosphates."

Muscatel Phosphate.

Muscatel wine, good quality.....fl.oz. ½
Pineapple syrup.....fl.oz. 1
Solution of acid phosphates,
..... about dashes 6
Carbonated water,
..... enough to fill an 8-ounce glass

Serve "solid."

—L. C. Hatchek, Chicago, Ill.

Nadjy Phosphate Syrup.

Red Messina orange syrup.....fl.oz. 6
Lemon syrup.....fl.oz. 6
Sherry wine.....fl.oz. 3
Water.....fl.oz. 1
Acid phosphates.....fl.dr. 2

—Campbell & Bro., Philadelphia, Pa.

Orgeat Phosphate.

Prepare like other "phosphates," using orgeat syrup for flavoring.

Orange Phosphate.

I.

This may be served in the usual way for "phosphates," as described above. An orange phosphate syrup may be prepared by adding solution of acid phosphates (2 to 4 fluidounces) to ½ gallon of orange syrup (see Chap. VIII.), omitting soda foam from the latter. Blood Orange Phosphate Syrup may be prepared in the same manner by using blood orange syrup.

II.

The following formula may also be employed for making Orange Phosphate Syrup.

Orange essence.....fl.dr. 2 to 4
Solution of acid phosphates.fl.oz. 4 to 6
Compound tincture of cudbear..fl. dr. 2
Syrup.....enough to make gal. ½

The coloring may be omitted.

III.

Grate the yellow portion of the rind from two good, juicy oranges, and triturate the gratings with 4 av. ounces of granulated sugar. Remove the white portion of the rind from the fruit, add the latter to the mixed peel and sugar, and crush and triturate until all is well mixed and the juice is thoroughly expressed. Now place all upon the fire, add one-half-gallon of "soda" syrup, bring to a boil, add 14 fluidrams of solution of citric acid and strain.

In making use great care not to grate off any of the white portion of the peel.

—I. H. Fry, Chicago, Ill.

Orange Malt Phosphate Syrup.

Malt extract, thick.....fl.oz. 4
Solution of acid phosphates....fl.oz. 2
Pineapple syrup.....fl.oz. 4
Orange wine.....fl.oz. 4
Orange syrup..enough to make fl.oz. 32

Serve like other "phosphate" syrups.

Peach Phosphate Syrup.

Peach syrup.....fl.oz. 26
Orgeat syrup.....fl.oz. 4
Solution of acid phosphates....fl.oz. 2

Serve like other "phosphates."

Pear Phosphate.

This is to be served like other "phosphates," using pear syrup for flavoring.

Pepsin-Malt Phosphate Syrup.

Elixir of pepsin.....fl.oz. 4
Malt extract, thick.....fl.oz. 4
Orange wine.....fl.oz. 4
Cinnamon syrup.....fl.oz. 2
Solution of acid phosphates....fl.oz. 2
Orange flower water.....fl.oz. 1
Red orange syrup,
....enough to make fl.oz. 32

Serve like other "phosphate" syrups.

Pilgrim Phosphate Syrup.

Cranberry juice.....fl.oz.	½
Pineapple juice.....fl.oz.	½
Catawba wine.....fl.oz.	2
Lemon essence.....fl.dr.	1
Solution of acid phosphatesfl.oz.	1 or 2
Syrup.....enough to make fl.oz.	32

Serve like other "phosphate" syrups.

Pineapple Phosphate.

This is to be served like other "phosphates," using pineapple syrup for flavoring.

If desired pineapple phosphate syrup may be employed instead of pineapple syrup and solution of acid phosphates added as required. This may be prepared like the other phosphate syrups and served in the same manner.

Pineapple syrup is improved by adding small amounts of orange and vanilla syrups.

Pistachio Phosphate.

This is to be prepared like other "phosphates," using pistachio syrup for flavoring.

Plum Phosphate.

Serve like other "phosphates," using plum syrup for flavoring.

Quince Phosphaet.

Prepare like other "phosphates," using quince syrup for flavoring.

Raspberry Phosphate.

This is to be served like other "phosphates," using raspberry syrup for flavoring.

If Raspberry Phosphate Syrup is desired. it may be prepared and served like other "phosphate" syrups. The syrup may be improved by adding a few drops of rose essence.

Rose-Malt Phosphate Syrup.

Malt extract, thick.....fl.oz.	4
Solution of acid phosphates....fl.oz.	2
Orange wine.....fl.oz.	2
Orange syrup.....fl.oz.	4
Cinnamon syrup.....fl.oz.	2
Rose syrup....enough to make fl.oz.	32

Serve like other "phosphate" syrups.

Sherbet Phosphate.

Serve like other "phosphates," using sherbet syrup for flavoring.

Spruce Phosphate.

This is to be served like other "phosphates," using spruce beer syrup for flavoring.

Strawberry Phosphate.

This is to be served like other "phosphates," using strawberry syrup for flavoring.

If Strawberry Phosphate Syrup is desired, it may be prepared and served as also described for other "phosphate" syrups.

The syrup may be improved by adding a small amount of vanilla and pineapple syrups.

Violet Phosphate.

This is to be prepared like other "phosphates," using violet syrup for flavoring.

Wild Cherry Phosphate Syrup.

I.

Wild cherry "phosphate" may be served in the usual manner for "phosphates," using wild cherry syrup for flavoring. For syrup, any of the formulas for wild cherry syrup in Chapter VIII. may be employed. A "phosphate" syrup may be made by simply adding 2 to 4 fluidounces of solution of acid phosphates to ½ gallon of this syrup, and then drawing the latter into the glass without the further addition of acid solution.

Other mixtures are used for wild cherry "phosphate" syrup, such as those furnished by the formulas which follow. Those mentioned above are, however, to be preferred.

II.

Almond essence.....fl.dr.	2
Solution of acid phosphates....fl.oz.	2
Compound tincture of cudbear..fl.dr.	1
Syrup.....enough to make fl.oz.	32

III.

Cherry juice, German black....fl.oz.	8
Syrup of wild cherry, U.S.P.fl.oz.	8 to 10
Glucose syrup.....fl.oz.	12
Diluted phosphoric acid.....fl.oz.	2
Oil of bitter almonds (deprived of hydrocyanic acid).....drops	4

IV.

Oil of bitter almonds (deprived of hydrocyanic acid).....drops	4
Alcohol.....fl.dr.	2
Diluted phosphoric acid.....fl.oz.	2
Syrup.....fl.oz.	16
Glucose syrup, enough to make fl.oz.	32
Caramel.....sufficient to color	

V.

Almond essence	fl.dr.	2
German black cherry juice	fl.oz.	8
Diluted phosphoric acid	fl.oz.	1
Syrup enough to make	fl.oz.	32

VI.

Fluid extract of wild cherry	fl.oz.	½
Simple elixir	fl.oz.	4
Solution of acid phosphates	fl.oz.	2
Syrup enough to make	fl.oz.	32

The simple elixir of above may be omitted if the so-called fluid extract of wild cherry for syrup be used instead of the regular fluid extract.

VII.

Fluid extract of wild cherry	fl.dr.	2
Tincture of cudbear	fl.dr.	2
Port wine	fl.dr.	4
Cognac brandy	fl.dr.	4
Solution of acid phosphates	fl.oz.	2
Syrup enough to make	fl.oz.	32

VIII.

Wild cherry bark, coarse powder	av.oz.	2
Solution of acid phosphates	fl.oz:	2
Sugar	av.oz.	24
Oil of bitter almonds (deprived of hydrocyanic acid)	drops	2
Alcohol	fl.dr.	2
Compound tincture of cudbear, Water of each, sufficient		

Warm 16 fluidounces of water just sufficiently to take the chill out of it, pour it upon the bark, cover the vessel closely, set aside for about 6 hours, agitate occasionally, filter, add enough water through the filter to make the filtrate measure 16 fluidounces, in the latter dissolve the sugar by cold percolation, and to the syrup add the oil previously dissolved in the alcohol, and enough of the tincture to impart the requisite color.

IX.

Wild cherry juice	fl.oz.	8
Solution of citric acid	fl.dr.	14
Almond essence (8 drops of oil to 1 fl.oz. of alcohol)	fl. dr.	3
Simple syrup enough to make	gal.	½

—I. H. Fry, Chicago, Ill.

X.

Syrup of wild cherry, U.S.P.	fl.oz.	8
Solution of acid phosphates	fl.oz.	2
Solution of citric acid	fl.oz.	1
Syrup enough to make	gal.	½

Color to suit.

—C. M. Ford, Denver, Colo.

XI.

Maraschino	fl.oz.	8
Cherry essence (containing 2½ per cent oil of bitter almonds deprived of HCN)	fl.dr.	½
Solution of acid phosphates	fl.oz.	8
Solution of citric acid	fl.oz.	½
Syrup enough to make	gal.	½

—W. M. Benton, Peoria, Ill.

XII.

The following formula is frequently used by country circus drink dispensers, cheap confectioners, city sidewalk merchants, etc.:

Caramel	av.oz.	1
Red coloring	fl.oz.	4
Oil of bitter almonds	fl.dr.	½
Alcohol	fl.oz.	1
Tartaric acid	av.oz.	4
Sugar	av.lb.	9
Water	gal.	5

The oil should be dissolved in the alcohol before adding to the other ingredients.

The red coloring may be either cochineal coloring or tincture of cudbear (see Chap. IV.).

Wild Strawberry Phosphate Syrup.

Strawberry syrup	fl.oz.	24
Lemon syrup	fl.oz.	5
Syrup of wild cherry, U.S.P.	fl.oz.	2
Solution of acid phosphates	fl.oz.	1

Serve like other "phosphate" syrups.

Wild Rose Phosphate Syrup.

Rose syrup	fl.oz.	25
Syrup of wild cherry, U.S.P.	fl.oz.	5
Solution of acid phosphates	fl.oz.	2

Serve like other "phosphate" syrups.

Lactarts.

These are made usually like the "phosphates," the only difference being that Lactart is substituted for the Solution of Acid Phosphates. The names would be the same as those of the corresponding "phosphates." Among other lactart drinks mentioned in this work are Lactart Syrup, Lactart Sherbet Syrup, Egg Lactart and Lactade.

Lactart.

Lactart itself is a proprietary preparation consisting essentially of lactic acid, containing 10 per cent of the latter. It may be prepared from U.S.P. lactic acid by mixing 2

fluidounces of the latter with 13 fluidounces of water. The U.S.P. acid contains 75 per cent absolute acid. A weaker acid may be employed in its place, providing a correspondingly smaller amount of water be used for dilution. For example, 2 fluidounces of 50 per cent acid should be diluted with 8 fluidounces of water (or 3 ounces with 12 ounces), 2 fluidounces of 25 per cent acid with 3 fluidounces of water (or 6 ounces with 9 ounces), etc.

Cream Lactarts.

Cream lactarts are drinks served in 12-ounce glasses with foam, like the "sodas," using 1½ fluidounces of the respective syrup, 1 fluidounce of cream, 1 fluidram of lactart and enough carbonated water, coarse and fine streams, to fill the glass. "Cream vanilla lactart," for example, would be made from 1½ fluidounces of vanilla syrup, etc., as described above.

CHAPTER XI.

EGG DRINKS.

Serving Egg Drinks.

The usual manner of preparing egg drinks is first to crack the egg shell on a 12-ounce glass by striking it on the edge of the latter, then break the egg with both hands, so that the contents will fall unbroken into the glass, and throw the shell away. If the egg should happen to be spoilt, put the glass quickly out of the way and break a fresh egg into another glass. Then add the syrup or syrups and solution of acid phosphates, if a "phosphate" is being served, and about 2 ounces of cracked or shaved ice, or a small lump of ice. Then put the shaker over the glass and shake thoroughly. Then set the whole down on the counter with the glass up, so the liquid is in the shaker. Now turn in the fine stream of carbonated water into the latter until about two-thirds full, and fill entirely with the coarse stream. Pour the liquid from shaker to glass and back again, holding the shaker and glass but a few inches apart, and pouring rapidly, repeating three times, leaving the mixture in the glass at the last pouring. The drink may be topped nicely with foam by pouring the last of the liquid from the shaker to the glass by holding them some distance apart and pouring slowly. Finally shake a little finely-grated nutmeg upon the surface of the beverage, and it is ready to serve.

The glass used in shaking must be one of the thick heavy kind, as the thin, light ones, are obviously not strong enough.

Instead of using a shaker and glass for shaking, the operator may use one of the shakers now made with a cover.

Some prefer to strain the drink. Strainers are made for this purpose. The shakers with covers have strainers in the latter, so that extra strainers are not necessary. If too much ice is not used, a strainer is unnecessary.

There are many who make egg drinks by mixing the egg, syrup, "acid phosphates," if latter is used, and about 2 fluidounces of plain water (ice water preferred) in a shaker with cap, agitating thoroughly, pouring out through the strainer into a 12-ounce glass, nearly filling the latter with the coarse stream of carbonated water, topping with the fine stream and sprinkling on the nutmeg. The water is added for the purpose of facilitating agitation. Charged water cannot be used for this purpose.

"Throwing" an egg drink, as it is termed, is to be deprecated, as it has a tendency to make a flat, insipid beverage.

Eggs used for preparing drinks should be washed perfectly clean and dried.

Egg Almond. (Egg Noyeau.)

Almond syrup..... .....fl.oz.
Egg..... 1
Cracked or shaved ice.....about oz. 2

Shake well as directed above for all egg drinks, strain into a 12-ounce glass, nearly filling the latter with the coarse stream of carbonated water, and then filling entirely with the fine stream.

Egg Ambrosia.

Prepare like egg almond, substituting ambrosia syrup for the almond syrup

Egg Apricot.

Prepare like egg almond, substituting apricot syrup for the almond syrup.

Egg Banana.

Prepare like egg almond, substituting banana syrup for the almond syrup.

Egg Birch. (Birch Beer Egg.)

Prepare like egg almond, substituting birch beer syrup for the almond syrup.

Egg Blackberry.

Prepare like egg almond, substituting blackberry syrup for the almond syrup.

Egg Calisaya. (Egg Calisaya Shake.)

Lemon syrup	fl.oz. 1
Elixir of calisaya	fl.oz. ½
Egg	1
Cracked or shaved ice	oz. 2

Shake well as directed above for all egg drinks, strain into a 12-ounce glass, nearly filling the latter with the coarse stream of carbonated water, and then filling entirely with the fine stream.

—Gamble & Ludwig, Minneapolis, Minn.

Egg Catawba.

Prepare like egg almond, substituting catawba syrup for the almond syrup.

Egg Celery Phosphate.

This is prepared like egg almond, substituting celery phosphate syrup for the almond syrup. Instead of using celery phosphate syrup, lemon syrup may be employed, adding some celery essence and solution of acid phosphate.

Egg Cherry.

Prepare like egg almond, substituting cherry syrup for the almond syrup.

Egg Chocolate. (Egg Chocolate Shake.)

Chocolate syrup	fl.oz. 2
Egg	1
Cracked or shaved ice	about oz. 2

Shake as directed above. Serve in a 12-ounce glass, nearly filling the latter with the coarse stream of carbonated water, and then filling entirely with the fine stream.

A small spoonful of ice cream or plain cream may be added to the egg mixture before agitation.

Egg Claret.

Prepare like egg almond, substituting claret syrup for the almond syrup.

Egg Coffee. (Egg Coffee Shake.)

Coffee syrup	fl.oz. 1½ or 2
Cream	fl.oz. 2 or 2½
Egg	1
Water (spring, such as Waukesha)	fl.oz. 5
Shaved or cracked ice	about oz. 2

Shake as in making other egg drinks. Serve in a 12-ounce glass, filling the latter with the fine stream of carbonated water.

This may also be prepared by omitting the spring water, nearly filling the glass with the coarse stream of carbonated water, and then using the fine stream.

Egg Coffee Soda. (Soda Egg Coffee.)

This is the same as the preceding when made with carbonated water.

Egg Cream.

The syrup is made as follows:

Cream	fl.oz. 4
Syrup	fl.oz. 12
Vanilla extract	fl.dr. 1 or 2
Yolks of 4 eggs.	

Rub cream with egg-yolks until perfectly smooth, then add the syrup and flavoring.

This is to be served like a plain "soda" syrup (Chap. VIII.) in a 12-ounce glass, but before handing over, sprinkle a little powdered spice, such as grated nutmeg, on the foam.

Egg Currant.

Prepare like egg almond, substituting currant syrup for the almond syrup.

Egg Fizz.

This is prepared like egg phosphate, adding a small spoonful of finely powdered sugar, and stirring when serving. Or it may be prepared from an egg, the juice of one lemon, 4 teaspoonfuls of powdered sugar, about 2 fluidrams of cream, water and carbonated water.

Egg Flip, Boston.

Egg	1
Coffee syrup (made from Java and Mocha coffees, mixed)	fl.oz. 1½
Cream, fresh	fl.oz. 1
Angostura bitters, imported	dashes 3
New England rum	fl.dr. 2
Shaved or cracked ice	sufficient

Shake well, strain, and add carbonated water to fill a 12-ounce glass; sprinkle with cinnamon.

—Gamble & Ludwig, Minneapolis, Minn.

Egg Flip, Ginger.

Make like cherry egg flip, using ginger syrup for the cherry syrup.

Egg Flip, Cherry.

Cherry syrup .....fl.oz 1½
Solution of acid phosphates. fl.dr. 1 or 2
Shaved or cracked ice.....about oz. 2
Egg 1

Shake well, draw on the coarse stream of soda, strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, fill with the fine stream, and sprinkle on a small amount of powdered nutmeg.

Egg Flip, Orgeat.

Make like cherry egg flip, substituting orgeat syrup for the cherry syrup.

Egg Flip, Raspberry.

Make like cherry egg flip, using raspberry syrup for the cherry syrup.

Egg Foam.

Pineapple syrup.....fl.oz. 2
Cream .....fl.dr. 2
Shaved or cracked ice.....about oz. 2
Egg 1

Prepare like other egg drinks, filling the glass (12-ounce) with the coarse and fine streams of carbonated water.

Egg Ginger.

Prepare like egg almond, substituting ginger syrup for the almond syrup.

Egg Gooseberry.

Prepare like egg almond, substituting gooseberry syrup for the almond syrup.

Egg Grape. (Grape Flip.)

Prepare a syrup as follows:

Grape juice (unfermented wine). fl.oz. 12
Syrup.....fl.oz. 18
Whites of 2 eggs, well beaten,
Mix well.

To serve, draw 1½ ounces in an 8-ounce glass, fill the latter slowly with the coarse stream of carbonated water, and mix by stirring with a spoon.

Egg Lactart.

Syrup, plain .....fl.oz. 1
Egg..... 1
Lactart .....fl.dr. 1
Shaved or cracked ice.....about oz. 2

Prepare like egg phosphate; sprinkle on a small amount of nutmeg before serving.

It may also be prepared like egg lemonade, substituting 1½ fluidrams of lactart for the lemon juice.

Egg Lemonade. (Egg Lemonade Shake.)

Juice of one large lemon,
Sugar, powder.....teaspoonfuls 3
Water, ice (spring water, like Waukesha, preferred).....fl.oz. 6
Egg 1

Shake as above directed for egg drinks. Serve in a 12-ounce glass, fill the latter with the fine stream of carbonated water, and sprinkle a little grated nutmeg on the foam.

If ice water is not at hand, use the spring water with cracked or shaved ice. One fluidounce of lemon syrup may be used for the sugar above.

This drink is sometimes called "Saratoga Lemonade," "Sea Breeze Lemonade," or "Sea Breeze Eggade."

Egg Lemonade Soda.

This may be prepared like the preceding, substituting carbonated water for the spring water.

Egg Lime Juice. (Lime Juice Flip.)

This is to be prepared like egg almond, substituting lime juice syrup for the almond syrup.

The lime juice syrup may be replaced by 2 fluidounces of lemon syrup and 1 fluidram of lime juice.

Egg Milk. (Egg Milk Shake,)

Milk (whole).....fl.oz. 3
Water (spring, such as Waukesha). fl.oz. 5
Egg 1
Sugar, powder.....teaspoonfuls 3
Shaved or cracked ice.....glassful ½

Shake thoroughly and strain into a 12-ounce glass. Fill the latter with the fine stream of carbonated water and sprinkle a small amount of powdered nutmeg on the foam.

Egg Nog, Cider.

Vanilla syrup.....fl.oz. 2
Sweet cider .....fl.oz. 6
Egg 1
Shaved ice.....about oz. 3

Shake well, put into a 12-ounce glass and serve with straws.

Egg Orange.

This is to be prepared like egg almond, substituting orange syrup for the almond syrup.

Egg Orangeade.

This is to be prepared like the preceding, using the juice of one-half orange and 3 teaspoonfuls of sugar for the orange syrup.

Egg Orgeat.

This is to be prepared like egg almond, substituting orgeat syrup for the almond syrup.

Egg Peach.

Prepare like egg almond, substituting peach syrup for the almond syrup.

Egg Phosphate. (Egg Phosphate Shake)

Lemon or orange syrup.....fl.oz. 2
Solution of acid phosphate..fl.dr. 1 or 2
Egg 1
Shaved or cracked ice.....about oz. 2

Shake as described, add the coarse and fine streams of charged water, and top the foam with a small amount of nutmeg.

Instead of making the beverage with one syrup, a mixture of syrups may be employed, such as raspberry, pineapple and lemon, or orange and lemon, etc. If lemon syrup is used, the lemon flavor is accentuated by adding several drops of lemon essence.

Instead of mixing egg, syrup, etc., as above directed, an Egg Phosphate Syrup may be employed. This may be according to one of the following formulas:

I.

Lemon syrup.....fl.oz. 8
Orange syrup (red or white).....fl.oz. 8
Eggs..... 8
Diluted phosphoric acid or solution of acid phosphates..... fl.oz. 2

Thoroughly incorporate with an egg beater. In serving draw 1½ to 2 fluidounces in a 12-ounce glass, fill with carbonated water and sprinkle on the nutmeg. The syrup may first be shaken with shaved ice if preferred, before adding carbonated water.

II.

Vanilla syrup.....fl.oz. 8
Strawberry syrup .....fl.oz. 8
Orange wine.....fl.oz. 1
Solution of acid phosphates.....fl.oz. 2
Eggs..... 8

Mix and serve like the preceding. Instead of the combinations of syrups given in these formulas, others may be employed, as already stated above.

III.

Use the following syrup for adding to the egg and ice.

Sherry wine.....fl.oz. 8
Diluted phosphoric acid .....fl.oz. 1
Simple syrup ....enough to make gal. ½

—A. E. Acker, Washington, D. C.

Egg Phosphate, Rich.

To the regulation egg phosphate add—unobserved—a tablespoonful or more of ice cream, shaking all the ingredients thoroughly before adding any water, then draw the fine stream of carbonated water full force.

The resulting product, as poured from the shaker, has the appearance and body of an elegant emulsion.

—F. O. Christensen, Chicago.

Egg Phosphate, Special.

Lemon syrup.....fl.oz. 2
Solution of acid phosphate.dashes 2 to 3
Egg, fresh only..... 1
Ice cream.....a lump size of an egg
Carbonated water.....sufficient

It will be observed ice cream is used instead of cracked ice. The popularity of all my egg drinks is due to the above, as ice weakens and takes from, while the ice cream adds to and improves, the drink.

—Jos. E. Grubb, Chicago, Ill.

Egg Phosphate, Ambrosia.

Prepare like Egg Phosphate, using ambrosia syrup for flavoring.

Egg Phosphate, Coca.

Coca phosphate syrup (Chap. X.).....fl.oz. 1½ or 2
Egg 1
Shaved or cracked ice.....about oz. 2

Shake as described above, pour into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and finally fill with the fine stream.

Egg Phosphate, Framboise.

Prepare like other egg phosphates, using framboise syrup for flavoring.

Egg Phosphate, Ginger. (Gingerine Egg Phosphate.)

Prepare like other egg phosphates, using ginger syrup, or a mixture of ginger with a little lemon (or with lemon, orange and pineapple) for flavoring.

Egg Phosphate, Nectar.

Prepare like other egg phosphates, using nectar syrup for flavoring.

Egg Phosphate, Raspberry. (Raspberry or Raspberryade Egg Phosphate.)

Prepare like other egg phosphates, using raspberry syrup for flavoring.

Egg Sherbet, Philadelphia.

The following syrup is used in making this drink:

Sherry wine	fl.oz. 6
Solution of citric acid	fl.dr. 4
Oil of lemon	drops 2
Vanilla extract	fl.dr. 1
Simple syrup	enough to make gal. 1

—C. G. A. Lodor, Philadelphia, Pa.

Egg Phosphate, Strawberry. (Strawberry Egg Phosphate.)

Prepare like other egg phosphates, using strawberry syrup for flavoring.

Egg Phosphate Syrup, Tutti Frutti.

Lemon syrup	fl.oz. 8
Orange syrup	fl.oz. 4
Vanilla syrup	fl.oz. 4
Champagne	fl oz. 1
Solution of acid phosphates	fl.oz. 2
Eggs	8

Beat the eggs, add the other ingredients, mix well and strain.

This is to be served by drawing 2½ to 3 fluidounces of syrup into a 12-ounce glass, and filling the latter with the coarse and fine streams of carbonated water,

Egg Pineapple.

Prepare like egg almond, substituting pineapple syrup for the almond syrup.

Egg Pistachio.

Prepare like egg almond, substituting pistachio syrup for the almond syrup, and also adding about 1 fluidram of solution of acid phosphates.

Egg Plum.

This is to be prepared like egg almond, substituting plum syrup for the almond syrup.

Egg Quince.

Prepare like egg almond, substituting quince syrup for the almond syrup.

Egg Raspberry. (Egg Raspberryade.)

Prepare like egg almond, substituting raspberry syrup for the almond syrup.

Egg Raspberry Vinegar.

Prepare like egg almond, substituting 4 fluidrams of raspberry vinegar and 4 teaspoonfuls of sugar for the almond syrup.

Egg Rose.

Prepare like egg almond, substituting rose syrup for the almond syrup.

Egg Shake, Cream.

Orgeat syrup	fl.oz. 1½
Ice cream	spoonfuls 2
Egg	1
Shaved or cracked ice	about oz. 2

Prepare like other egg drinks.

Egg Shake, Seltzer.

Lemon syrup	fl.oz. 2½
Egg	1
Shaved or cracked ice	about oz. 2

Prepare like other egg drinks, filling the glass with seltzer water.

Egg Shake, Vichy.

Prepare like the preceding, using vichy water for the seltzer water.

Egg Sherbet.

Prepare like egg almond, substituting sherbet syrup for the almond syrup.

Egg Sherbet Phosphate.

Sherbet syrup	fl.oz. 2
Solution of acid phosphates	fl.dr. 1 or 2
Egg	1
Cracked or shaved ice	about oz. 2

Prepare and serve like other egg drinks, filling the glass with carbonated water.

Egg Sour.

This is served like egg phosphate, the only difference being in the addition of about 1 teaspoonful or fluidram of lime juice.

Egg Strawberry.

Prepare like egg almond, substituting strawberry syrup for the almond syrup.

Egg Tea.

Prepare like egg almond, substituting tea syrup for the almond syrup.

Egg Turqua.

Turqua syrup.....fl.oz. 2
Egg..... 1
Cracked or shaved ice.....about oz. 2
Prepare like other egg drinks.

Egg Violet.

Prepare like egg almond, substituting violet syrup for the almond syrup.

Alaska Snowball.

Lemon syrup.....fl.oz. ½
Orange syrup.....fl.oz. ½
Cream.....fl.oz. 1
Eggs..... 2
Shaved ice.....sufficient
Mix the eggs, cream and syrups in the glass, put in ice to fill latter three-fourths, shake the whole thoroughly, strain into a 12-ounce glass, almost fill the latter with the coarse stream of carbonated water, and top off with powdered nutmeg.

—E. J. Sultan, New York, N. Y.

Charlotte Russe.

Vanilla syrup.....fl.oz. 1
Cream.....fl.oz. 6
Egg..... 1
Finely shaved ice.....glassful ½
Shake well, as directed above for all egg drinks, and fill the glass with carbonated water, using the fine stream. Serve in a 12 or 14 ounce glass with a spoon. Some grated nutmeg may be sprinkled on the foam.

Cherry Bounce.

Cherry ripe syrup.....fl.oz. 2
Cream.....fl.oz. ½
Egg..... 1
Angostura bitters.....dashes 2
Make like egg phosphate.

—Federmann & Hallar, Kansas City, Mo.

Chocolate, Leghorn.

Chocolate syrup.....fl.oz. 1
Vanilla syrup.....fl.oz. ½
Egg..... 1
Crushed or shaved ice .....about oz. 2
Prepare like other egg drinks, serving in a 12-ounce glass, using enough of the coarse and fine streams of carbonated water to fill the glass, and topping with nutmeg.

Claret Flip. (Tacoma.)

Claret syrup.....fl.oz. 2
Lemon juice.....fl. dr. 2
Egg..... 1
Shaved or cracked ice.....about oz. 2
Shake, strain into a 12-ounce glass, fill the latter with the coarse and fine streams of carbonated water, and serve with grated nutmeg.

Cleopatra.

Orgeat syrup.....fl.oz, 2
Cream.....about fl.oz. ½
Yolk of 1 egg,
Shaved ice.....about oz. 4
Seltzer water.....sufficient
Put the syrup, cream, yolk, ice, and portion of the seltzer water in an egg shaker, mix well by stirring with a spoon, strain into a 12-ounce glass, and fill the latter with the water.

Coffee Egg Nog.

Coffee extract.....fl.oz. 1½
Sugar, powder.....teaspoonful 1
Egg..... 1
Shaved or cracked ice.....glassful ½
Milk.....enough to fill a 12-ounce glass
Shake well and strain.

Crystaline.

Egg..... 1
Sherry wine syrup.....fl.oz. 2
Ice cream.....tablespoonfuls 1 or 2
Cracked ice.....sufficient
Shake well, strain into a 12-ounce glass, fill latter in usual manner with carbonated water, sprinkle with nutmeg or cinnamon, and serve with straws.

The wine syrup is made from 1 part of sherry wine and 7 of syrup.

—Crystal Pharmacy, Pittsburg, Pa.

Glasgow Frappe. (Glasgow Flip.)

Juice of 1 lemon
Egg..... 1
Sugar, powder.....tablespoonful 1
Shaved or cracked ice.....about oz. 2
Shake thoroughly, strain into a 12-ounce glass, and fill the latter with ginger ale.

Goldenade.

Sugar, powder.....tablespoonfuls 4
Juice of 1 lemon,
Yolk of one egg,
Shaved or cracked ice.....about oz. 2
Shake well, add carbonated water from the coarse stream, pour from glass to shaker and back several times, and strain through a strainer into a 12-ounce glass.

This is sometimes prepared from the yolk of an egg, catawba syrup, 1½ fluidounces; cracked ice, and glassful of milk, not using any soda or lemon juice. Other syrups may be substituted for the catawba syrup.

Golden Fizz.

This is prepared like goldenade, but a small amount of ginger, either essence or syrup, is added.

Jacqueminot.

Rose syrup.....fl.oz. 2
Milk.....fl.oz. 8
Shaved or cracked ice.....glassful ½
White of 1 egg.

Shake well, strain into a 12-ounce glass, and fill the latter with the fine stream of carbonated water.

Lime Juice Flip.

This may be prepared like egg calisaya by substituting lime juice for the elixir of calisaya and ginger syrup for the lemon syrup.

Nadja.

Raspberry syrup.....fl.oz. 2
Yolk of 1 egg,
Cream.....about fl.oz. ½
Shaved ice.....about oz. 4
Vichy water.....sufficient

Mix the syrup, egg yolk, cream, ice and a portion of the water in an egg shaker, mix well by stirring with a spoon, strain into a 12-ounce glass and fill the latter with vichy water.

Pike's Peak.

Orgeat syrup.....fl.oz. 1
White of 1 egg,
Cream.....fl.oz. 2
Shaved ice.....about oz. 4

Shake well, strain and fill 12-ounce glass with coarse and fine streams of carbonated water, about equal proportions.

Pink Punch.

The following may be sold under this name:

Yolks of 3 eggs,
Milk.....fl.oz. 16
Sugar.....av. lb. 1
New England rum.....fl.oz. 1
Tincture of cudbear or black raspberry juice.....sufficient

Beat the egg-yolk thoroughly with the milk, dissolve the sugar in this mixture by stirring, then add the rum slowly with constant stirring, strain through cheese cloth and color pink with the cudbear tincture or black raspberry juice; 2 fluidrams of vanilla extract may be added.

This syrup does not keep well and should be frequently renewed.

This may be served like ordinary "soda" in a 12-ounce glass by drawing 2 fluidounces of the syrup in the latter, turning on the fine stream of charged water for a moment, then filling the glass three-fourths with the coarse stream, and finally topping off with the fine stream.

—Frank Edel, Des Moines, Iowa.

Prairie Oyster.

Draw about 2 fluidounces of carbonated water in an 8-ounce glass, break in an egg, and season with salt, pepper and lemon juice, and serve without breaking the yolk. In serving, also give a glass of plain "soda" or seltzer water.

Queen Charlotte.

Claret syrup.....fl.oz. 1½
Orgeat syrup.....fl.oz. ¾
Cream.....fl.oz. ½
Egg.....1
Shaved or cracked ice.....about oz. 2

Prepare like other egg drinks, serving with whipped cream.

Queen's Favorite.

Pineapple syrup.....fl.oz. ½
Raspberry syrup.....fl.oz. ½
Vanilla syrup.....fl.oz. ½
Egg.....1
Shaved or cracked ice.....glassful ½
Milk.....nearly to fill glass

Shake well, strain into a 12-ounce glass, fill the latter with the fine stream of carbonated water, and sprinkle a small amount of nutmeg on the foam.

Raspberry Punch.

Raspberry syrup.....fl.oz. 2
Orange syrup.....fl.oz. ½
Egg.....1
Shaved or cracked ice.....about oz. 2
Milk.....enough to fill a 12-ounce glass

Shake well, strain, fill the glass with the fine stream of carbonated water and sprinkle on the foam a small amount of grated nutmeg.

Royal Cabinet.

Catawba syrup.....fl.oz. 1
Or
Pineapple syrup.....fl.oz. 1
Orange syrup.....fl.oz. 1
Or
Raspberry syrup.....fl.oz. 1
Cream.....about fl.oz. ½
Cracked or shaved ice.....about oz. 2
Egg.....1

Prepare and serve as in making egg phosphate, filling the glass with the coarse and fine streams of carbonated water.

Royal Flip.

Vanilla syrup.....fl.oz. ¾
Pineapple syrup.....fl.oz. ¾
Raspberry syrup.....fl.oz. ¾
Egg 1
Ice cream.....spoonful 1
Shaved or cracked ice.....about oz. 2

Mix by agitation, strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and then fill entirely with the fine stream.

Rum Punch.

"Pink Punch" without coloring may be dispensed under this name.

—Frank Edel, Des Moines, Iowa.

Silverade.

Prepare like goldenade, substituting the white of the egg for the yolk.

Silver Fizz.

This is prepared like silverade, a small amount of ginger, either essence or syrup, being added.

Sunset Sizzle.

Sarsaparilla syrup .....fl.oz. 2
Angostura bitters.....about fl.dr. 1
Yolk of 1 egg,
Shaved or cracked ice.....about oz. 2

Prepare like other egg drinks.

White Mountain.

Orange syrup .....fl.oz. 2
Cream .....fl.oz. 3
White of 1 egg,
Shaved or cracked ice.....glassful ½

Shake well, strain into a 12-ounce glass and fill the latter with the fine stream of carbonated water.

White Plush.

Catawba syrup.....fl.oz. 1
White of 1 egg,
Shaved or cracked ice.....glassful ½
Milk.....enough to fill the glass

Shake well, strain into a 12-ounce glass and serve with whipped cream and a spoon.

Zozia Fizz.

Zozia syrup.....fl.oz. 2
Cream .....fl.oz. ½
Egg 1
Cracked or shaved ice.....about oz. 2

Prepare like other egg drinks, sprinkling on a small amount of grated nutmeg.

CHAPTER XII.

"ADES" (LEMON, ORANGE, LIME, ETC.)

Serving of "Ades."

The different fruit "ades"—lime, lemon, orange, etc.—are served "solid" in 12-ounce glasses, with or without straws. The juice of the fruit is agitated with sugar or syrup, cracked or shaved ice, and some water in a shaker, and then strained into the glass, the latter being filled with water. If the water used is one containing carbonic acid gas like carbonated or soda water or seltzer water, the mixture must not be agitated in the closed shaker, but should be incorporated by beating or stirring in the shaker with a spoon.

The fruit used in making "ades" should be large and well flavored and be washed perfectly clean and dried before using for preparing beverages.

Lemonade, Plain.

Juice of one lemon,
Sugar, powder.....teaspoonfuls 4
Water, plain.....about fl.oz. 6
Cracked or shaved ice.....about oz. 2

Agitate thoroughly in a shaker, strain into a 12-ounce glass, fill the latter with plain water, and stir with a spoon.

Lemonade, Apollinaris.

Prepare like plain lemonade, substituting Apollinaris water for the plain water.

Lemonade, Champagne.

See "Lemon Champagne Syrup."

Lemonade, Claret.

Prepare like soda lemonade, using 2 fluidounces of claret syrup for sweetening instead of powdered sugar.

Lemonade, Egg.

See Chapter XI.

Lemonade, Fruit.

Juice of ½ lemon,
Juice of ½ orange,
Pineapple juice.....fl.dr. 2
Sugar, powder.....teaspoonfuls 4
Finely shaved ice.....glassful ½

Agitate thoroughly in a shaker, strain into a 12-ounce glass, and fill with either plain or carbonated water.

Lemonade, Milk.

Juice of 1 lemon,
Sugar.....teaspoonfuls 4
Milk.....fl.oz. 1½
Sherry wine.....fl.oz. ½
Shaved ice.....about oz. ½
Water, enough to fill an 8-ounce glass.

Mix well by agitation, strain, and fill glass with water.

Lemonade, Rose Bud.

Make a syrup as follows:

Rose essence.....fl.oz. 1
Cochineal color.....fl.dr. 2
Solution of citric acid.....fl.oz. 1
Syrup .....enough to make fl.oz. 32

Serve solid by drawing in an 8-ounce glass seven-eighths full of carbonated water from the coarse stream, adding one fluidounce of the syrup and stirring with a spoon.

Lemonade, Seltzer. (Lemonade Seltzer.)

Juice of one lemon,
Sugar, powder.....teaspoonfuls 4
Cracked or shaved ice.....glassful ½
Seltzer water.....about fl.oz. 4

Stir vigorously in a shaker with a spoon, strain into a 12-ounce glass, fill the latter slowly with the seltzer water and stir with a spoon.

Lemonade, Soda. (Lemonade Soda.)

Prepare like Seltzer Lemonade, substituting plain carbonated water for the seltzer water.

Lemonade, Soda Egg.

See Chapter XI.

Lemonade, Strawberry.

Prepare like plain lemonade, using 2 fluidounces of strawberry syrup for sweetening instead of powdered sugar.

Lemonade, Tea.

Prepare like plain lemonade, substituting cold tea for the water of the latter.

Lemonade, Tokay.

Lemonade, Victoria.

Lemonade, Vienna Garden.

See corresponding syrups in Chapter VIII.

Lemonade, Waukesha.

This is made like other lemonades, Waukesha water being used.

Lemonade, Wine.

Tartaric acid	gr. 75
Alcohol	fl.oz. 1
Syrup of orange flowers	fl.oz. 1½
Sherry wine	fl.oz. 8
Distilled water	fl.oz. 23

Mix the liquids and dissolve the tartaric acid, filter into three 12-ounce bottles, to each of which add 30 grains of bicarbonate of soda, cork quickly and secure the cork with a string before shaking. The alcohol may be replaced by cognac, if a finer preparation is wanted.

Lactade.

One fluidounce lactart syrup served "solid" in 8-ounce glasses, with carbonated water, may be dispensed under this name.

Limeade. (Lime Lemonade.)

Squeeze the juice from half a lime into a 12-ounce glass, put in the rind, add 2 fluidounces of plain syrup (or lemon syrup), nearly fill the glass with shaved or cracked ice, add some carbonated water from the coarse stream, mix by pouring from the glass to strainer and back several times, finally strain into the glass, and serve with straws.

A whole lime may be employed, the rind omitted, and served with sugar or lemon syrup, some cracked ice, "soda" water, and straws.

Limeade may also be prepared from lime juice, but the former method is to be preferred.

Lime juice may also be served ("solid") in mineral water glasses with syrup and carbonated water.

Orangeade. (Orange Lemonade.)

This is made like plain lemonade, substituting orange for the lemon. A small amount of lemon juice may be added if not thought sour enough. It is served also like lemonade.

It may also be prepared from 1 fluidounce of orange and 1 fluidram of lemon juice; fill an 8-ounce glass with the coarse stream of carbonated water, and stir with a spoon.

Coffeeade.

Serve iced coffee for this. See "Coffee Syrup," Chapter VIII.

Gingerade.

Serve ginger syrup "solid" with carbonated water in 8-ounce glasses, adding a small amount of lime juice.

Kola—Ade.

Make a syrup as follows:

Fluid extract of kola	fl.dr. 2
Vanilla extract	fl.oz. 1
Syrup	enough to make fl.oz. 32

Serve 1 fluidounce "solid" with enough carbonated water to fill an 8-ounce glass.

—R. N. Girling, Holmesville, Miss.

Phosph - Ade.

Prepare a syrup as follows:

Vanilla extract	fl.oz. ½
Solution of acid phosphates	fl.oz. 2
Syrup	enough to make fl.oz. 32

Serve 1 fluidounce "solid" with enough carbonated water to fill an 8-ounce glass.

—R. N. Girling, Holmesville, Miss.

Phosphorade.

Prepare a syrup as follows:

Solution of acid phosphates	fl.oz. 1
Phosphoric acid, syrupy, or 85%	fl.dr. 1½
Orange flower water	fl.oz. 4
Water	fl.oz. 8
Syrup	fl.oz. 20

Serve 1 fluidounce "solid" with enough carbonated water to fill an 8-ounce glass.

—Andrew Blair & Co., Philadelphia, Pa.

Ade, Golden.

See "Goldenade," Chap. XI.

Ade, Silver.

See "Silverade," Chap. XI.

Fruit Juice Shakes.

These may be prepared like lemonade or orangeade by putting about 2 fluidounces of juice into a 12-ounce glass, adding about 4 ounces of shaved or cracked ice, and about 3 teaspoonfuls of sugar, agitating thoroughly in a shaker, straining, and filling the glass with water, or serving in the glass with straws, without straining.

If raspberry juice be employed the beverage would properly be called Raspberryade; if strawberry juice be used, Strawberryade; pineapple juice, Pineappleade; cranberry juice, Cranberryade, etc.

Lemonade Powder or Sugar. (Dry Lemonade.)

Lemon essence	fl.dr. 4
Tartaric acid	av.oz. ½
Sugar powder	av.oz. 8

This mixture may be used for preparing artificial lemonade (by adding to cold water) when it is not convenient to have lemons, as in camping out in the woods, during sea voyages, etc.

If an effervescent powder is wanted, ¼ av. ounce of sodium bicarbonate should be added to the above.

Citric acid may be substituted for the tartaric acid in the above.

Lemonade Tablets or Bonbons.

Lemon essence	fl.dr. ½
Tartaric acid	av.oz. 1
Sodium bicarbonate	av.oz. ½
Sugar, powder	av.oz. 8
Alcohol	fl.oz. 2

Reduce the solids to fine powder, mixing well, incorporate the oil and alcohol, and press the mass into candy molds, the latter being previously oiled with cacao butter.

The tablets should weigh approximately ½ av. ounce. After forming into molds they should be dried in a drying room or chamber, or near a warm stove. As they fall to pieces readily they should be wrapped in tin foil or waxed paper.

They may be used like lemonade powder for making lemonade, by dissolving a tablet in a glassful of cold water.

Citric acid may be substituted for tartaric acid in the above.

Orangeade Powder or Sugar. (Dry Orangeade.)

Orange essence	fl.dr. 4
Tartaric acid	gr. 120
Sugar, powder	av.oz. 8

Sixty grains of sodium bicarbonate may be added to this mixture. It is to be used like lemonade powder.

Citric acid may be substituted for tartaric acid in the above.

CHAPTER XIII.

CREAM AND MILK DRINKS.

Milk and cream used at the soda counter must be kept cool by keeping the container on ice. Only the very best quality obtainable of each should be employed, and a fresh supply should be obtained at least once a day. If a good quality of cream is not obtainable the following may be employed:

Artificial Cream.

Good milk.....quarts 2
Corn starch.....av.oz. 1
Egg..... 1

Rub the starch with about one-half of the milk to a smooth paste, heat cautiously to dissolve the starch, add the egg previously thoroughly incorporated with the remainder of the milk, and strain.

Milk and cream retainers should be cleaned with water and sodium bicarbonate. If bottles are used as containers they may be cleaned by agitation with a small amount of water and sodium bicarbonate and some scraps of paper.

Other drinks containing cream, besides those enumerated in this chapter, are "sodas" made with the cream syrups in Chapter VIII., such as chocolate cream, coffee cream, vanilla cream, nectar cream, hickory-nut cream, and walnut-cream syrups.

Charlotte Russe.

See Chapter XI.

Chocolate Milk Shake.

Prepare like "Milk Shake," flavoring with chocolate syrup only.

Chocolate Bouche. (Chocolate Boushea.)

Chocolate syrup.....fl.oz. 2 or 2½
Shaved or cracked ice.....glassful ½
Milk.....enough to fill a 12-ounce glass

Shake well, strain, and top with whipped cream.

Clam-Juice Soda.

Clam juice.....fl.oz. 1½
Milk, cold.....fl.oz. 2
Carbonated water, coarse stream,
.....sufficient to fill an 8-ounce glass

Add a pinch of salt and a small amount of powdered white pepper to each glass.

Clam Horn.

This is like the succeeding, plain water being substituted for the carbonated water; season with salt and pepper.

Coffee Bouche. (Coffee Boushea.)

Coffee extract.....fl.oz. 1½
Sugar, powder .....tablespoonful 1
Shaved or cracked ice.....glassful ½
Milk.....enough to fill a 12-ounce glass

Shake well, strain, and top with whipped cream.

Columbine.

Prepare a syrup as follows:

Condensed milk, Eagle.....can 1
Rye whisky.....fl.oz. 8
Syrup.....enough to make gal. ½

Draw 1 fluidounce into an 8-ounce glass, and fill with carbonated water, using the fine stream. Serve with straws.

—Jos. J. Keller, Rochester, N. Y.

Creamed Orange.

Vanilla syrup.....fl.oz. 1½
Shaved ice.....about tablespoonful 1
Orange pulp.....tablespoonfuls 1 to 2
Cream, or whipped cream, latter preferred.....oz. 1

Draw above into a 12-ounce glass, and fill latter with fine stream of carbonated water. Serve with a spoon.

Creme de Chocolate.

Chocolate syrup	fl.oz.	1½
Cream	fl.oz.	2
Shaved ice	glassful	⅓

Fill 12-ounce glass with milk, shake the whole, strain, and top with whipped cream.

Cream Shake.

This is prepared like milk shake, one-half of the milk being replaced by cream.

Cream Shake, Banana.

Banana syrup	fl.oz.	2
Cream	fl.oz.	8
Shaved or cracked ice	glassful	½

Shake well, strain into a 12-ounce glass, add a few pieces of banana, fill the glass with the fine stream of carbonated water, and serve with spoon and straws.

Egg Milk Shake.

See "Egg Milk," Chapter XI.

Flowing Stream.

Catawba syrup	fl.oz.	1
Orgeat syrup	fl.oz.	½
Shaved ice	glassful	⅓
Milk	enough to fill a 12-ounce glass	

Shake well, strain, and top off with grated nutmeg when serving.

Frozen Cream.

This is to be prepared like cream shake, using very finely shaved ice, leaving the latter in the glass, and serving with a spoon. Some dispensers put in a spoonful of ice cream or top with whipped cream.

Fruit Chocolate.

Make a syrup as follows:

Strawberry syrup	fl.oz.	10
Vanilla syrup	fl.oz.	10
Raspberry syrup	fl.oz.	8
Chocolate syrup	fl.oz.	4

In serving draw 2 fluidounces of this syrup into a 12-ounce glass, add 1 or 2 fluidounces of cream, nearly fill the glass with the coarse stream of carbonated water, and then top with the fine stream.

Ginger Puff.

Ginger syrup	fl.oz.	1
Lemon syrup	fl.oz.	½
Cream syrup	fl.oz.	½
Whipped cream	spoonful	1

Half fill 12-ounce glass with carbonated water, using both coarse and fine streams, and then fill with ginger ale on draught.

Ice Cream Shake.

This is the name sometimes given to "Frozen Cream" when served with the ice cream.

Jacqueminot.

See Chapter XI.

Ladies' Favorite.

Cream	pint	1
Syrup	pints	2
Vanilla extract	fl.dr.	2
Strawberry extract	fl.dr.	1

Serve by drawing 2 fluidounces in a 12-ounce glass, fill the latter about one-half with the coarse stream of carbonated water, and then fill entirely with the fine stream.

Milk Shake.

I. Put about 4 ounces of shaved ice into a thick 12-ounce glass, add 1 fluidounce of vanilla syrup, fill the glass with milk, and agitate the whole thoroughly. The shaking may be done in a special machine known as a "milk shaker," or by means of a small hand shaker like that used for making egg drinks. Then strain into another glass and serve. Shake on some powdered nutmeg if desired.

Another syrup (e. g., chocolate) might be substituted for the vanilla syrup, but such syrup should never be acid, as it will curdle the milk.

II.

Shaved or cracked ice	glassful	½
Vanilla syrup	fl.oz.	1
Pineapple syrup	fl.oz.	1
Milk	enough to fill glass	

Prepare and serve like the preceding.

III.

Milk	glassful	½
Vanilla syrup	fl.oz.	1½ or 2
Shaved ice	enough to fill glass	

Shake like the preceding until ice is nearly or all melted, fill the glass with the coarse stream of carbonated water, and strain, or serve with two straws.

This drink is made richer by the addition of some cream to the milk.

Milk Lemonade.

See Chapter XII.

Mint and Milk.

Mint syrup	fl.oz. 1½
Angostura bitters	fl.dr. ½
Milk	fl.oz. 3
Carbonated water, coarse stream,	enough to fill 8-ounce glass

Serve "solid."

Moorish Sherbet.

Strawberry syrup	fl.oz. ¾
Pineapple syrup	fl.oz. ¾
Vanilla syrup	fl.oz. ¾
Shaved ice	about glassful ½
Milk	enough to fill the glass

Mix in a 12-ounce glass, shake well, as directed for milk shake, fill with carbonated water from the fine stream and serve with straws.

Instead of drawing three syrups as above directed, nectar syrup made by formula No. I. may be employed, or for that matter any nectar or sherbet syrup may be used.

Mountain Pink.

To serve this prepare mountain pink syrup as follows:

Vanilla extract	fl.oz. ½
Lemon essence	fl.oz. ½
Pineapple juice	fl.oz. 2
Sugar, granulated	av.lb. 2½
Cream	pints 2
Egg	1
Sodium bicarbonate	gr. 60
Tincture of cudbear or cochineal coloring	sufficient to give a pink color

Mix well. The sodium bicarbonate is added to neutralize the acid of the pineapple juice.

In serving, shave ice into a glass until two-thirds full, then add syrup and soda water, shave more ice on the drink, and serve with spoon.

Mountain Cream.

Prepare a syrup as follows:

Cream	fl.oz. 8
Red orange syrup	fl.oz. 8
Peach syrup	fl.oz. 2
Vanilla syrup	enough to make fl.oz. 32

To serve, draw 1 fluidounce into a 12-ounce glass, fill latter one-half with the coarse stream of carbonated water, and then fill with the fine stream.

Nectar and Cream.

Prepare like Mountain Pink, omitting the pineapple juice, sodium bicarbonate, and color.

Serve like Mountain Pink.

Peaches and Cream.

Peach syrup	fl.oz. 1
Cream	fl.oz. ½

Draw into an 8-ounce glass, fill the latter with very finely shaved ice, add carbonated water, mix well, and serve with a spoon. Whipped cream may be used for the plain cream.

Pineapple and Cream.

Peel a pineapple, cut the fruit lengthwise in thin slices into a pan and cover with granulated sugar, using about as much of the latter as there is fruit, and mash all up fine with a wooden masher until the sugar is nearly dissolved. Add about twice as much simple syrup and put on the counter in a covered glass bowl. Coloring or foam or acid of any kind should be omitted.

To serve use the crushed fruit syrup, about 2 ounces in a 12-ounce glass, and draw on the carbonated water, coarse stream, three-fourths of the glass full, then add cream enough to fill the glass, and stir with a spoon, leaving the spoon in the glass.

Queen's Favorite.

See Chapter XI.

Seltzer and Milk.

Put about 3 fluidounces of milk into an 8-ounce glass, fill the latter with seltzer water, mix by stirring with a spoon, and serve "solid"

Soda Crusta.

Peach syrup.....fl.oz. 2
Cream.....fl.oz. 1
Whipped cream.....spoonfuls 2

Serve in a 12-ounce glass, filling the latter with the coarse stream of carbonated water.

Strawberry Puff.

Prepare a syrup as follows:

Cream.....fl.oz. 8
Water.....fl.oz. 8
Sugar.....av.oz. 16
Strawberry juice.....fl.oz. 2
Vanilla extract.....fl.dr. 1

Mix and dissolve the sugar by stirring. Pour into a punch bowl and cover with whipped cream (see Chapter XVIII.); drop a few strawberries on the latter.

In serving, draw 2 fluidounces of this syrup in a 12-ounce glass, fill the latter with the fine stream of carbonated water, and top off with whipped cream and a strawberry.

Vanilla Milk Shake.

Serve like "Milk Shake," flavoring with vanilla syrup only.

Vichy and Milk.

Draw about 5 fluidounces of vichy water into an 8-ounce glass, fill with milk, and stir, serving "solid."

White Mountain.

See Chapter XI.

CHAPTER XIV.

VARIOUS FANCY DRINKS.

This chapter presents a collection of formulas for fancy soda drinks which could not conveniently be included in any of the previous chapters. All the fancy soda water drinks in this work are therefore included in Chapters VIII. to XIV.

Almond Sponge.

Ice cream, plain.....large spoonful 1
Orgeat syrup.....fl.oz. 1

Draw into a 12-ounce glass, fill latter with coarse stream of carbonated water, top with whipped cream, and serve with a spoon.

This may also be prepared by drawing the same amount of orgeat syrup into a mixing glass, adding a little strawberry syrup, half filling the glass with cracked ice, then filling the glass with milk, agitating thoroughly, straining into a 12-ounce glass, holding the shaker high so as to have a nice foam on the drink, and sprinkling on a small amount of powdered nutmeg.

Ambrosia Frappe.

Juice of ½ lime,
Ambrosia syrup, No. IV. preferred.....fl.oz. 1
Shaved ice.....glassful ½

Mix in a 12-ounce glass, shake vigorously, fill the glass with the coarse stream of carbonated water, and serve with straws.

Amycose.

Orange syrup.....fl.oz. 2
Raspberry juice.....fl.oz. 1
Juice of ½ orange,
Shaved ice.....glassful ¼

Draw into a 12-ounce glass, shake well, fill the glass with the coarse stream of carbonated water, mix by stirring with a spoon, add a slice of orange or a small quantity of crushed pineapple, and serve with two straws.

Arctic Freeze.

Orgeat syrup.....fl.oz. 2
Shaved ice.....glassful ¼
Ice cream.....spoonfuls 3

Mix well in a 12-ounce glass, fill the latter with the coarse stream of carbonated water, and mix again.

Arctic Sherbet.

Prepare a sherbet syrup as follows:

Pineapple syrup.....fl.oz. 10
Strawberry syrup.....fl.oz. 10
Vanilla syrup.....fl.oz. 10
Orange essence.....fl.dr. 2 to 3
Solution of citric acid.....fl.oz. ½

Serve by filling a large mineral water glass (10 or 12 ounce) one-third with shaved ice, add 1½ fluidounces of the above syrup, fill the glass with the coarse stream of carbonated water, stir well, and serve with straws.

Asepsin.

Prepare a syrup as follows:

Pepsin, pure scales.....gr. 60
Solution of acid phosphates....fl.dr. 1
Water.....fl.oz. 2
Vanilla syrup.....pint 1
Raspberry syrup.....
.....enough to make pints 2

Dissolve the pepsin in the acid solution mixed with the water, and add the remaining ingredients.

Serve "solid" in 8-ounce glasses like the "phosphates."

Bowler's Favorite.

Prepare a syrup as follows:

Wild grape juice.....fl.oz. 3
Strawberry syrup.....fl.oz. 16
Fluid extract of kola.....fl.oz. ½
Solution of acid phosphates.....fl.oz. ½
Syrup.....enough to make gal. ½
Soda foam.....sufficient

—F. W. Kisker, Cincinnati, O.

Burgundy Punch.

Burgundy wine.....fl.oz. 2
Syrup of orange.....fl.oz. 1

Fill a 12-ounce glass with crushed ice, and draw coarse stream of soda water to fill glass. Decorate with slice each of pineapple and orange. Serve with straws.

—T. P. Taylor & Co., Louisville, Ky.

Cherry Bloom.

Prepare a syrup as follows:

Cherry essence .....fl.dr. 1½
Strawberry essence.....fl.dr. ½
Vanilla extract .....fl.dr. 2
Solution of citric acid .....fl.dr. 1
Syrup..... .....fl.oz. 32
Cochineal color, sufficient to give red color

Use 1½ fluidounces of this syrup to a 12-ounce glass, fill the latter with finely shaved ice, and then fill with carbonated water, stirring well and serving with straws.

—I. L. Lyons & Co., New Orleans, La.

Cherry Cocktail. (Cherry Sangaree.)

Cherry juice .....fl.oz. 1
Lemon juice .....fl.dr. 2
Angostura bitters.....fl.dr. 1
Sugar .....teaspoonful 1
Shaved ice.....glassful ¼

Draw on 2 fluidounces of carbonated water, mix, strain with a long, fine stream into a cocktail glass with a cherry in it; twist a piece of lemon rind over the drink and serve.

The lemon juice, cherry and lemon rind are frequently omitted.

Cherry Fizz.

Cherry syrup.....fl.oz. 1½
Lemon juice.....fl.dr. 1 or 2

Draw into a mixing glass, fill latter at least half full of shaved or cracked ice, stir well, strain into a fancy glass which has previously been filled about one-third full of finely-shaved ice, add a very little sodium bicarbonate on the end of a spoon, stir well, and add a slice of orange or lemon or a cherry and orange.

Cherry Flip.

Prepare a syrup as follows:

Fluid extract of wild cherry.....fl.oz. 1
Jamaica rum.....fl.oz. 1
Solution of citric acid.....fl.oz. 1
Red coloring .....sufficient
Syrup.....enough to make gal. ½

Serve 1 fluidounce "solid," with enough carbonated water to fill an 8-ounce glass.

—E. W. Gray, Cincinnati, O.

Cherry Maze.

Cherry juice .....fl.oz. 1
Shaved ice.....glassful ¼
Angostura bitters.....fl.dr. 1½
Carbonated water, coarse stream, to fill glass.

Serve "solid" in an 8-ounce glass.

Chocolate Noir.

Chocolate syrup.....fl.oz. 2
Water, ice, plain .....glassful ½
Ice cream.....spoonfuls 3

Mix in a 12-ounce glass, fill the latter with the coarse stream of carbonated water, and serve with a spoon.

Cinisaya.

Prepare a syrup as follows:

Detannated tincture of cinchona, N.F..... fl.oz. 3
Vanilla extract .....fl.oz. 1
Orange essence.....fl.dr. 2
Alcohol.....fl.oz. 3
Water.....fl.oz. 6
Simple syrup.....fl.oz. 3
Lemon syrup ..enough to make fl.oz. 32

Mix the first five ingredients, filter through a small amount of purified talcum if necessary to clarify, wash the filter with a little water, and to the filtrate add the remaining ingredients and color red.

Serve "solid" in an 8-ounce glass like the "phosphates."

Claret Cup.

Claret syrup .....fl.oz. 2
Shaved ice.....glassful ¼

Draw into a 12-ounce glass, add a slice of lemon, fill with the coarse stream of carbonated water, stir with a spoon and serve with straws.

Claret Punch.

Claret syrup .....fl.oz. 1½
One slice of orange,
One slice of lemon,
Shaved ice.....glassful ¼

Put in a 12-ounce glass, fill with the coarse stream of carbonated water, stir well, decorate with fruit and serve with straws.

Clarine.

Claret syrup ....fl.oz. ½
Catawba syrup .....fl.oz. ½
Solution of acid phosphates.....fl.dr. 1

Serve like the "phosphates" using the above syrups for flavoring.

Coffee Frappe.

Water ice, plain	glassful	⅔
Coffee syrup	fl.oz.	1½
Cream syrup	fl.oz.	½

Draw into a 12-ounce glass, fill the latter with the coarse stream of carbonated water, stir well, and serve with a spoon.

Coffee Punch.

Malted milk coffee syrup	fl.oz.	2
Shaved ice	glassful	½
Milk	fl.oz.	½

Draw the above into a 12-ounce glass, fill with "soda" water, and sprinkle on nutmeg when serving.

Crab Apple Tonic.

Sweet cider	gal.	1
Sugar, granulated	av.lb.	7
Malt extract	fl.oz.	4
Solution of citric acid	fl.oz.	1½

Evaporate the cider to ½ gallon, in this dissolve the sugar, strain and add the extract and solution.

This makes a preparation said to be similar to some proprietary drinks such as "Champagne Mist" and "Kylo."

It may be served "solid" with carbonated water in an 8-ounce glass or with foam in a 12-ounce glass.

Cream Ice.

Cream syrup	fl.oz.	1
Water ice, plain	glassful	⅔

Put into a 12-ounce glass, fill the latter with ice cream, mix, and serve with a spoon.

Cream Puff. (Vienna Cream.—Zephyr.)

To serve cream puff, draw 1 fluidounce of the syrup, according to the flavor desired (lemon, orange, vanilla, or any other), into a 12-ounce glass and half fill the glass with carbonated water. Draw also another 12-ounce glass half full of charged whipped cream (see Chap. XVIII.) and pour the contents of the two glasses together until mixed.

Or draw about one ounce of the cream into a 12-ounce glass, add from another glass 4 or 5 fluidounces of carbonated water, add whatever syrup is desired, and then fill the glass with the cream, using a slow stream, stirring constantly meanwhile with a spoon.

The "soda" water in the second glass may be cooled by adding some shaved or cracked ice.

Creme de la Chocolate.

Draw 2 fluidounces of chocolate syrup into a 12-ounce glass, add about one ounce of shaved ice, and fill the glass with charged whipped cream (see Chap. XVIII.); half fill another glass with cream from the fountain, and mix the two by pouring from one glass to the other.

Creme de Menthe.

Crush some fresh mint leaves with a small amount of granulated sugar, put into a 12-ounce glass, add about 4 ounces of shaved ice, 2 fluidounces of cream syrup flavored with almond essence, and about 4 fluidounces of Apollinaris water, shake well, strain, and fill the glass with Apollinaris water.

Crushed Cherries.

Prepare a syrup as follows:

Almond essence (8 drops oil to 1 oz. alcohol)	drops	30
Vanilla extract	fl.dr.	6
Solution of citric acid	fl.dr.	12
Caramel	fl.dr.	12
Simple syrup...enough to make	fl.oz.	32

—F. C. Godbold, New Orleans, La.

Cuban Delight.

Prepare a syrup as follows:

Lemons		3
Oranges		3
Sugar, granulated	av.lb.	1
Strawberry juice	fl.oz.	4
Solution of citric acid	fl.oz.	1
Carmine solution, Water	of each, sufficient	
Syrup...enough to make	gal.	1

Grate the yellow portion of the peel from the lemons and oranges, triturate with the sugar, add the juice, and enough water to make a solution; strain, and add the coloring and the syrup.—Hotel Pfister Drug Store, Milwaukee, Wis.

Currant Shrub.

Red currant juice	fl.oz.	2
Sugar	tablespoonful	1

Carbonated water, coarse stream, enough to fill an 8-ounce glass.

Serve "solid."

English Sherbet.

Claret syrup	fl.oz.	1
Pineapple syrup	fl.oz.	1
Juice of ½ lemon, Water ice, plain	glassful	½

Mix in an 8-ounce glass, fill the latter with the coarse stream of carbonated water, mix well, and serve with a spoon.

Floating Island.

Juice of 1 lemon,
Pineapple syrup.....fl.oz. 1½

Draw into a 12-ounce glass, fill the latter with the coarse stream of carbonated water, add a slice of pineapple and a ladleful of crushed pineapple, and serve with a spoon and straws.

Florida Fruit.

Prepare a syrup as follows:

Vanilla extract.....fl.dr. 1
Orange essence.....fl.dr. 1
Lemon essence.....fl.dr. 1
Pineapple juice.....fl.oz. 1
Strawberry juice.....fl.oz. 1
Soda foam.....sufficient
Syrup.....enough to make fl.oz. 32
Tincture of cudbear...sufficient to color

This may be served in 12-ounce glasses like any of the syrups in Chap. VIII.

Foaming Niagara.

Pineapple syrup.....fl.oz. 2
Water ice, plain .....about oz. 2

Beat the white of an egg, add to the above contained in a 12-ounce glass, mix with a spoon, and fill the glass with the fine stream of carbonated water.

Frappe. (Granite.)

Lemon ice.....about oz. 4
Lemon syrup.....fl.oz. 1
Water...enough to fill a 12-ounce glass

Frigidine. (Thirst Quencher.)

Prepare a syrup as follows:

Citric acid.....av.oz. 1¼
Lemon essence (1 oz. to 1 pint)..fl.dr. 4
Compound tincture of gentian...fl.dr. 4
Syrup (8 lbs. to gal.).....gal. ½

Do not serve too sweet. Under no circumstances should ice cream be added. The small amount of gentian added prevents the thirst-producing effect of the syrup, and gives a slight snap to the beverage.

—J. W. Ferrier, New York City.

Frozen Coffee.

Make a syrup as follows:

Coffee, Mocha.....av.oz. 6
Coffee, Java.....av.oz. 10
Sugar.....av.lb. 3½
Water.....sufficient

Mix the coffee, in powder, pack carefully in a glass percolator, cover tightly to prevent escape of aroma, and pour boiling water in 8-ounce lots into the vessel until 40 fluidounces of liquid have been obtained. Then add the sugar, and dissolve by agitation.

Serve 1 fluidounce to a sherbet glass full of shaved ice, with a spoon.

Two fluidrams of vanilla extract may be added to the above syrup.

—Geo. P. Conner, Philadelphia, Pa.

Frui Miz.

A preparation said to be similar may be made as follows:

Syrup.....gal. ½
Fruit flavor (see below).....fl.dr. 5
Vanilla extract.....fl.dr. 2
Solution of citric acid.....fl.oz. 1½
Compound tincture of cudbear...
.....sufficient to color

FRUIT FLAVOR.

Oil of orange.....fl.dr. 6
Oil of lemon.....fl.dr. 4
Glycerin.....fl.oz. 1
Alcohol.....enough to make fl.oz. 16

Serve "solid" in 8-ounce glasses as described for the "phosphates."

Fruit Punch.

Prepare a syrup as follows:

Strawberry syrup,
Orange syrup,
Pineapple syrup.....equal parts of each

Use 1½ fluidounces of this syrup to a 12-ounce glass filled one-third with finely-shaved ice, then fill the glass with the coarse stream of carbonated water, add a few strawberries, a slice of pineapple, and a slice of orange, and serve with straws.

—Geo. P. Conner, Philadelphia, Pa.

Ginger Ale Cobbler.

Dissolve 1 teaspoonful of powdered sugar in a small amount of carbonated water, add a large slice of pineapple, fill the glass (12-ounce size) with shaved ice, pour on as much ginger ale as the glass will hold, decorate with fruit and serve with straws.

Ginger Ale Sour.

Lemon syrup.....fl.dr. 4
Lemon juice.....fl.dr. 2
Ginger ale, sufficient to fill an 8-ounce glass.

Serve "solid."

Ginger Fizz.

Prepare a syrup as follows:

Ginger essence	fl.oz. 1 to 2
Lemon essence	fl.dr. 2
Solution of citric acid	fl.dr. 2
Syrup	enough to make fl.oz. 32

Serve "solid' like ginger ale syrup, adding a small spoonful of finely powdered sugar to the drink when serving.

Ginger Mint.

Prepare a syrup as follows:

Peppermint essence	fl.oz. ½
Ginger essence	fl.oz. 1 to 2
Water	sufficient
Syrup	enough to make fl.oz. 32
Magnesium carbonate	av.oz. ½

Mix the peppermint intimately with the magnesium carbonate, add 2 fluidounces of water, mix again, filter, and add through the filter enough water to make 2 fluidounces of filtrate. To the latter add the remaining ingredients.

Serve like ginger ale syrup.

Gilt Edge.

Crême de Mandarin	fl.oz. 8
Strawberry syrup	fl.oz. 8
Orange syrup	fl.oz. 8
Banana syrup	fl.oz. 12
Syrup	enough to make gal. ½

Serve with pure cream.

—Thomas & Thompson, Baltimore, Md.

Glaces.

These are served in a variety of ways, but always, however, in regular 3-ounce glace goblets with short glace spoons.

One method of serving is to fill the goblet with very finely shaved ice, then draw into the glass as much of the required syrup as it will hold. Instead of syrup, crushed fruit or a mixture of fruit and syrup may be employed. If this be used, less ice must be taken and the ice and fruit be well mixed.

Frosted Glace is made by moistening the rim of the glass with water, then dipping into powdered sugar. The remainder of the process of serving is the same as outlined above.

Other methods of making and serving are given in the succeeding articles.

Glace, Pineapple.

Pineapple juice	fl.oz. 3
Pineapple, grated or crushed, av. or	fl.oz. 4
Solution of citric acid	fl.dr. 2
Syrup	pint 1
Water	pints 2½
Gelatin	av.oz. ½

Dissolve the gelatin in a small amount of hot water, add to the remaining ingredients, and freeze in an ice-cream freezer.

It is, of course, simply a water ice or sherbet (see Chap XV.).

It is to be served in glace goblets with a short spoon.

Any other fruit juice and fruit may be substituted for the pineapple.

Glace Syrups, Fruit.

Fruit syrup	fl.oz. 2
Sugar, powdered	teaspoonful 1
Cracked or shaved ice	about oz. 2
Carbonated water	sufficient

Mix the syrup, sugar and ice with about 9 fluidounces of the water, stir rapidly with a spoon and strain into a thin glass containing a slice of the fruit of pineapple, peach, orange or lemon, or a few selected berries of small fruit.

Grape Juice. (Unfermented Wine.)

This may be served acceptably by half filling an 8-ounce glass with finely shaved ice, then filling with the juice, and serving before there is too great dilution from the melted ice.

It may also be served by mixing 2 or 3 fluidounces in an 8-ounce glass with enough carbonated water, coarse stream, to fill the latter, the mixture being served "solid."

Honey Dew.

Prepare a syrup as follows:

Pineapple syrup	pint 1
Vanilla syrup	pint 1
Lemon syrup	pint 1
Honey, strained	dr. 3
Solution of citric acid	fl.dr. 2
Soda foam	fl.dr. 4

Serve like ordinary syrups such as lemon, etc.

—Fortune, Ward & Co., Memphis, Tenn.

Hot Tom.

Prepare a syrup as follows:

Hot tom essence	fl.dr. 4
Compound tincture of cudbear	fl.dr. 4
Solution of citric acid	fl.oz. 1
Syrup	enough to make fl.oz. 32

Serve "solid" in 8-ounce glasses like the "phosphates."

Hyacintha.

Saffron, American	av.oz.	½
Juniper berries	av.oz.	¼
Dates	av.oz.	¼
Raisins	av.oz.	¼
Aniseed	gr.	15
Cinnamon	gr.	15
Coriander	gr.	8
Mace	gr.	8
Cloves	gr.	8
Diluted alcohol	fl.oz.	19

Reduce the solids to as fine a condition as possible, add the diluted alcohol, macerate for about a week, agitating occasionally and filter. Use this tincture for flavoring syrup, which is then to be served "solid" like the "phosphates."

Hyde Park Tally-Ho.

Punch syrup	fl.oz. 2
Ice cream	one small lump

Shake together, add carbonated water until glass is nearly full, add another lump of ice cream and serve.

—Jos. E. Grubb, Chicago, Ill.

Jersey Lily.

Prepare a syrup as follows:

Vanilla syrup	fl.oz.	16
Pineapple syrup	fl.oz.	8
Raspberry syrup	fl.oz.	8
Soda foam		sufficient

Serve like any of the syrups in Chap. VIII.

Kisme.

Prepare a syrup as follows:

Blood orange syrup	fl.oz.	10
Cherry syrup	fl.oz.	10
Zozia syrup	fl.oz.	10
Rose water	fl.oz.	1

This is usually served "solid."

Kola Champagne.

Prepare a syrup as follows:

Grape jelly	av.oz.	4
Water, hot	fl.oz.	4
Fluid extract of kola	fl.dr.	1
Vanilla extract	fl.dr.	1
Acetic ether	drops	2
Œnanthic ether	drops	2
Syrup	enough to make fl.oz.	32

Serve "solid" in 8-ounce glasses like the "phosphates."

Kola Cinch.

Make a syrup as follows:

Fluid extract of kola	fl.dr.	2
Tincture of cinchona, special	fl.dr.	6
Fruit syrup, special	enough to make fl.oz.	32

The tincture of cinchona is to be made from red cinchona, moderately fine powder, av. ounces 3; alcohol, fluidounces 5, and whisky, fluidounces 10; macerate for several days, agitating occasionally, filtering and passing enough diluted alcohol through the filter to make the filtrate measure one pint.

The fruit syrup is to be made by mixing:

Wild cherry phosphate syrup	fl.oz.	16
Vanilla syrup	fl.oz.	4
Orange syrup	fl.oz.	4
Lemon syrup	fl.oz.	4
Strawberry syrup	fl.oz.	4

The above drink is to be served "solid" in 8-ounce glasses like the "phosphates."

Kola Fizz.

Prepare a syrup as follows:

Fluid extract of kola	fl.dr.	2
Grape juice	fl.oz.	8
Pineapple syrup	fl.oz.	6
Solution of citric acid	fl.oz.	1½
Syrup	enough to make fl.oz.	32

Serve "solid" like the "phosphates."

Ladies' Choice.

Fruit nectar syrup	fl.oz.	1
Peach ice cream	about oz.	2

Draw into a 12-ounce glass, fill latter two-thirds with carbonated water, add a small amount of shredded pineapple, and top off with whipped cream.—Southern Drug & Chemical Co., Savannah, Ga.

Lemon and Lime.

Lime fruit syrup	fl.oz.	½
Lemon syrup	fl.oz.	½
Solution of acid phosphates	fl.dr.	1
Shaved ice	about oz.	2

Mix the above with some carbonated water, stir thoroughly, strain into an 8-ounce glass, fill the latter slowly with the coarse stream of carbonated water, and stir again.

Lemon Fizz.

Juice of one-half lemon,
Sugar, powder ..... teaspoonful 1

Mix in a 12-ounce glass, half fill latter with seltzer water, stir, and serve during effervescence.

Malted Milk Coffee.

Prepare a syrup as follows:

Malted milk	av.oz.	8
Sugar	av.oz.	16
Coffee extract	fl.oz.	2½
Water	fl.oz.	24

Dissolve the malted milk and coffee in the water by the air of heat, strain, and when cold add the coffee extract, and color with caramel.

Serve like the syrups in Chapter VIII

Malt Wine Cordial.

Malt wine	fl.oz.	8
Orange syrup	fl.oz.	24

This is to be served "solid" in 8-ounce glasses.

Maple Frappe.

I.

Maple syrup	fl.oz.	1
Vanilla syrup	fl.oz.	1
Water ice, plain	glassful	⅔

Draw into a 12-ounce glass, add a spoonful of ice cream, fill the glass with the coarse stream of carbonated water, mix the whole thoroughly, add a small quantity of crushed pineapple and serve with a spoon.

II.

Maple syrup	fl.oz.	2
Ice cream	spoonful	1

Mix well by agitation in a shaker, and add sufficient carbonated water.

—Jos. E. Grubb, Chicago, Ill.

May Bird.

Blood orange syrup	fl.oz.	½
Catawba syrup	fl.oz.	½
Pineapple syrup	fl.oz.	½
Lemon juice	fl.dr.	1

Serve "solid" in an 8-ounce glass with carbonated water.

Mazurka.

Prepare a syrup as follows:

Fluid extract of kola	fl.dr.	1
Sherry wine	fl.oz.	2
Currant juice	fl.oz.	2
Syrup	enough to make fl.oz.	32
Cochineal color		sufficient

Serve "solid" in 8-ounce glasses like the "phosphates."

Mexican Moselle.

Moselle syrup	fl.oz.	1
Juice of 1 orange,		
Shaved ice	glassful	¼
Peppermint essence	a few drops	

Draw into a 12-ounce glass, fill the latter with the coarse stream of carbonated water, add a slice of pineapple or some crushed pineapple, and serve with straws.

Mint Cordial Frappe.

Prepare a syrup as follows:

Ginger essence	fl.oz.	½
Tincture of capsicum	fl.dr.	½ to 1
Brandy	fl.oz.	1
Solution of citric acid	fl.dr.	3
Raspberry vinegar	fl.oz.	1
Syrup	enough to make fl.oz.	32

The capsicum may be omitted if the ginger essence is considered strong enough.

In serving, put 2 fluidounces of this syrup into a 12-ounce glass, add 3 or 4 sprigs of fresh mint, press latter against side of glass to get the flavor, fill the latter two-thirds with shaved ice, fill entirely with the coarse stream of carbonated water, top off with several sprigs of mint, and serve with straws.

Mint Nectar.

Prepare a syrup as follows:

Peppermint essence, U. S. P.	fl.dr.	1½
Vanilla extract	fl.dr.	4
Solution of citric acid	fl.oz.	1
Syrup	gal	½
Water,		
Soda foam	of each, sufficient	
Tincture of grass	enough to impart a pale green tint	

Mix the essence with 2 fluidounces of water, and filter through powdered magnesium carbonate, passing enough water through the filter to make the filtrate measure 3 fluidounces. To the latter add the remaining ingredients.

This is to be served "solid" in 8-ounce glasses like the "phosphates." Solution of acid phosphates may be added if desired, or some shaved ice, then serving with straws.

Mixed Fruit.

Take a small quantity of each fruit in season, cut very fine, place in a dish, add enough syrup to cover it, and let stand several hours before using.

In serving, put about 2 tablespoonfuls of the above mixed fruit syrup in a 12-ounce glass, and add ice cream and soda water, serving like other ice cream "sodas" with crushed fruit.

Morning Dew.

Prepare a syrup as follows:

Brandy	fl.dr. 4
Sweet catawba wine	fl.dr. 1
Clove essence	fl.dr. 1
Blood orange extract	fl.dr. 1
Rose essence	fl.dr. 2
Strawberry juice	fl.oz. 1
Pineapple juice	fl.oz. 1
Gum foam	sufficient
Simple syrup	enough to make gal. ½

—A. O. Zwick, Cincinnati, O.

Mountain Cream.

Strawberry syrup	fl.oz. 1
Vanilla syrup	fl.oz. 1
Ice cream	about spoonful 1

Draw above into a 12-ounce glass, filling the latter with carbonated water in the manner described for ice-cream "soda" in Chap. II.

Mountain Mist.

Mountain mist syrup	fl.oz. 1
Lemon juice	fl.dr. 2
Angostura bitters	dash 1

Make a "solid" drink in an 8-ounce glass, then add a small amount of powdered sugar, and stir. It is to be drank during effervescence.

Napa Soda.

Blood orange syrup	fl.oz. 1
Lime juice	fl.dr. 1

Fill an 8-ounce glass seven-eighths full of carbonated water, coarse stream, add the above, and stir, serving "solid."

Nectar.

Prepare a syrup from:

Pineapple syrup	fl.oz. 3
Strawberry syrup	fl.oz. 3
Raspberry syrup	fl.oz. 2
Orange-flower water	fl.oz. 2½
Citric acid	av.oz. ½
Sherry wine	fl.oz. 8
Syrup	pints 3

Use pure fruit juices and the best sherry wine.

—F. W. Schoonmaker, New York City.

Nectarine.

Fill an 8-ounce glass seven-eighths full of carbonated water, coarse stream, add a fluidounce of nectar syrup and about 1 fluidram of solution of acid phosphates, and stir, serving "solid."

Nessle-Rode.

Punch syrup	fl.oz. 2
Ice cream	a small lump

Stir or shake until smooth, and add cut candied fruits, one large spoonful. Then add carbonated water, add another lump of ice cream, and serve.

The candied fruits I use in above are cherries, pineapple, citron and pears. Of course these are matters of convenience and choice. They should be cut to the size of a pea and mixed, but not crushed.

—Jos. E. Grubb, Chicago, Ill.

New York Beauty.

Strawberry syrup	fl.oz. 1
Plain syrup	fl.oz. 1
Ice cream	about tablespoonfuls 1½

Mix in a 12-ounce glass, and fill the latter with the fine stream of carbonated water.

Oporto Cooler.

Make a syrup as follows:

Port wine	pint 1
Syrup (12 lbs. to gal.)	pints 3
Vanilla extract, best	fl.dr. 3

Serve in a 12-ounce glass like other "soda" syrups.

—J. W. Ferrier, New York, N. Y.

Orange Frappe.

Juice of 1 orange,	
Raspberry syrup	fl.oz. ½
Lemon juice	fl.dr. 1
Sugar	tablespoonful 1
Shaved ice	glassful ½

Add several fluidounces of carbonated water, stir well, strain into an 8-ounce glass, and fill the latter with the coarse stream of plain "soda" water.

Orange Sherbet.

Prepare a syrup as follows:

Orange syrup, preferably from fruit	fl.oz. 10
Vanilla syrup	fl.oz. 10
Pineapple syrup	fl.oz. 10
Sherry wine	fl.oz. 2
Grape juice	fl.oz. 1

Dispense 1½ fluidounces in an 8-ounce glass with some shaved ice, filling the glass with the coarse stream of carbonated water.

Our Own Cherry.

Prepare a syrup as follows:

Wild cherry phosphate, Thompson's	fl.oz. 4
Whiskey	fl.oz. 4
Glycerin	fl.oz. 1
Solution of acid phosphates	fl.oz. 2
Syrup	enough to make gal. ½
Egg foam	sufficient

Draw 1½ fluidounces into an 8-ounce glass, fill latter one-half with shaved ice, mix, fill glass with carbonated water, drop in a cherry, and serve "solid" with straws.

—T. J. Radford, Kansas City, Mo.

Oriental Sherbet.

Sherbet syrup	fl.oz. 1
Red orange syrup	fl.oz. ½
Shaved ice	about oz. 2
Carbonated water, coarse stream	enough to fill an 8-ounce glass

Serve with straws.

Peach Blow.

Prepare a syrup as follows:

Peach juice	fl.oz. 3
Raspberry juice	fl.dr. 6
Lemon juice	fl.dr. 6
Holland gin	fl.oz. 1½
Syrup	fl.oz. 27
Cochineal coloring	enough to impart a reddish tint
Soda foam	sufficient

Serve like any of the syrups in Chapter VIII.

—Gamble & Ludwig, Minneapolis, Minn.

The following may be served under the same title:

Peach syrup	fl.oz. 2
Cream	fl.oz. 1

Mix, fill 12-ounce glass with carbonated water, top with whipped cream, and serve with a spoon.

Persian Sherbet.

I. Draw into a 12-ounce glass about 1½ fluidounces of vanilla or strawberry syrup, then about ½ fluidounce each of lemon and orange syrup, add about 4 ounces of shaved ice and some water, shake well in a shaker, strain into the glass, fill the latter slowly with the coarse stream of carbonated water, and mix by stirring with a spoon.

II.

Some dispensers use a syrup composed of

Raspberry syrup	fl.oz. 15
Pineapple syrup	fl.oz. 15
Orange essence	fl.oz. 1
Solution of citric acid	fl.oz. 1

and dispense 1 fluidounce "solid" in an 8-ounce glass with carbonated water, using no ice.

III.

Mix

Raspberry syrup,
Pineapple syrup ..... equal parts of each

Take equal parts of oil of orange and citric acid, with enough alcohol to dissolve the oil, and put into a small bottle to be used like "acid phosphate."

To dispense, draw 1 fluidounce of the syrup, add 3 dashes of the mixture, and fill glass with carbonated water, using an 8-ounce glass.

—J. Milhau's Son, New York City.

Pineapple Cardinal.

Pineapple syrup	fl.oz. 2
Catawba syrup	fl.oz. 1
Shaved ice	about oz. 2

Draw into a 12-ounce glass, half fill latter with the coarse stream of carbonated water, stir well, and fill with the fine stream of carbonated water.

Pineapple Glace.

Crushed pineapple	spoonfuls 2
Pineapple syrup	fl.oz. ½
Shaved ice	enough to fill glass

Serve in punch glasses.

—Thomas C. Dobyns, Washington, D. C.

Pineapple Sherbet.

I. Draw a fluidounce or two of pineapple syrup into an 8-ounce glass, add a large spoonful of grated pineapple (the canned may be used), fill the glass with finely shaved ice, mix well, and serve with a spoon.

II.

Pineapple syrup	fl.oz. 1
Shaved ice	glassful ½

Draw into a 12-ounce glass, fill the latter with plain "soda," stir well, add spoonful of crushed strawberry, and top off with a slice of orange; serve with straws.

—Webster & Churchill, Minneapolis, Minn.

Pineapple Smash.

Pineapple syrup.....fl.oz. 1
Sugar, powder.....teaspoonful 1
Shaved or cracked ice.....glassful ½

Add some carbonated water, stir vigorously in a shaker, strain into an 8-ounce glass, fill the latter with the coarse stream of carbonated water, stir again, and add a piece of pineapple or some crushed pineapple. A small amount of lemon juice may be added.

Or it may be served as follows:

Pineapple syrup.....fl.oz. 2
Claret syrup.....fl.oz. ½
Finely shaved ice.....glassful ⅓
Crushed pineapple...teaspoonfuls 2 or 3

Put the above into a 12-ounce glass, fill the latter with the coarse stream of carbonated water and serve with a spoon and straws.

The two syrups may be replaced by the juice of one half a lemon.

Plankinton Sorbet.

Prepare a syrup as follows:

Orange..... 1
Peach..... 1
Banana..... 1
Pineapple..... ½
Strawberries.....av.oz. ½
Simple syrup....enough to make gal. ½

Cut up the oranges with peel to cubes; remove peel and stones from peaches and peel from bananas, and cut both into cubes; grate the pineapple and crush the strawberries. Add the syrup and color pink.

To serve, put ice cream in the bottom of a glass, add one ounce of the above sorbet and fill up with carbonated water, using the fine stream; serve with a long spoon.

The syrup must be made fresh every day.
—Spiegel & Co., Milwaukee, Wis.

Queen Bess.

Kola-coca syrup.....fl.oz. 1
Strawberry syrup.....fl.oz. 1½
Shaved ice.....about oz. 3
Ginger ale, enough to fill an 8-ounce glass

Raspberry and Honey.

Maple syrup,
Honey,
Raspberry juice.....equal parts of each

Serve "solid" in 12-ounce glasses, using 2 fluidounces of the above syrup for flavoring.

Raspberry Cordial.

This is a "solid" drink, served in 8-ounce glasses, using 1 fluidounce of raspberry syrup, ½ fluidounce of raspberry vinegar, and enough carbonated water, coarse stream, to fill the glass.

Raspberry Punch.

Raspberry syrup.....fl.oz. 1½
Juice of half a lemon,
Blackberry brandy.....fl.oz. ½

Use a long glass holding 10 fluidounces. Fill it half full of shaved ice and use sufficient "soda" to fill glass, adding a small piece of lemon peel. Serve with straws.
—Federmann & Hallar, Kansas City, Mo.

Raspberry Shrub.

Raspberry vinegar.....fl.oz. 2
Sugar.....tablespoonful 1
Carbonated water, coarse stream,
.....enough to fill an 8-ounce glass

Razzle Dazzle.

Pineapple syrup.....fl.oz. 1
Raspberry syrup.....fl.oz. ½
Catawba syrup.....fl.oz. ½
Raspberry vinegar.....fl.dr. 1
Shaved ice.....glassful ⅓

Draw the above into a 12-ounce glass, fill the latter with the coarse stream of carbonated water, stir and serve with straws.

Sometimes the catawba and raspberry syrups are omitted, and are replaced by a small amount of lemon juice.

Rose Bud.

I.

Prepare a syrup as follows:

Strawberry juice.....fl.oz. 2
Rose water.....fl.oz. 1
Syrup.....enough to make fl.oz. 32
Cochineal coloring, enough to impart a reddish tint,
Gum foam.....sufficient

This is to be served like any of the syrups in Chap. VIII.

II.

Opera bouquet syrup.....fl.oz. 2
Acid phosphate.....dashes 3
Blackberry brandy.....dashes 4

Draw into an 8-ounce glass, fill latter one-half with shaved ice, fill with carbonated water, coarse stream; stir, top off with a slice of orange and serve with straws.

For the "acid phosphate" use equal parts Horsford's phosphate and water.
—Webster & Churchill, Minneapolis, Minn.

Russian Tea.

Tea syrup.....fl.oz. 1½
Juice of one-half lemon,
Shaved ice.....glassful ¼
Carbonated water, coarse stream,
.....enough to fill an 8-ounce glass
Stir and strain, serving "solid."

Sangaree. (Port Sangaree.)

Prepare a syrup as follows:
Tartaric acid.....av.oz. 1
Acetic acid, U.S.P.....fl.dr. 1
Claret wine.....fl.oz. 8
Port wine.....pints 2
Syrup.....enough to make gal. 1
Serve 1 fluidounce "solid" in an 8-ounce glass, with enough carbonated water to fill the latter.

—Detroit Pharmacal Co., Detroit, Mich.

Saratoga Cooler.

Juice of one-half lemon,
Sugar.....teaspoonful 1
Shaved ice.....glassful ½
Ginger ale, enough to fill a 12-ounce glass

Sherbet Punch.

Strawberry syrup.....fl.oz. ¾
Raspberry syrup.....fl.oz. ¾
Orange syrup.....fl.oz. ¾
Juice of one-half lemon,
Shaved ice.....glassful ½
Carbonated water, coarse stream,
.....enough to fill a 12-ounce glass
Mix by stirring with a spoon, decorate with fruit in season, and serve with straws.

Two fluidrams of nectar or sherbet syrup may be substituted for the mixture of syrups used in the above.

Siberian Flip.

Orange syrup.....fl.oz. 1
Pineapple syrup.....fl.oz. 1
Solution of acid phosphates....fl.dr. 1
Angostura bitters.....a few drops
Shaved ice.....glassful ¼
Shake well in a shaker, pour into a 12-ounce glass, fill the latter with the coarse stream of carbonated water, mix by stirring, add a thin slice each of orange and pineapple, and serve with two straws.

Silver Fizz.

Juice of ½ orange,
Juice of ½ lemon,
Sugar, teaspoonfuls 2,
White of 1 egg.
Mix, shake well, strain, fill glass with carbonated water, and add a slice of orange.

Soda Cocktail.

Lemon syrup.....fl.dr. 4
Lemon juice.....fl.dr. 1
Angostura bitters.....fl.dr. 1
Carbonated water, coarse stream, enough to fill three-fourths of a 12-ounce glass
Stir in a teaspoonful of powdered sugar and drink during effervescence.

Spa Fizz.

Strawberry syrup.....fl.oz. 2
Orange syrup.....fl.oz. 1
Juice of one-half lemon,
Shaved or cracked ice.....glassful ¼
Shake well, strain into a 12-ounce glass, and fill the latter with the coarse stream of carbonated water.

Sparkling Punch.

Lemon juice.....fl.oz. 1
Orange juice.....fl.oz. 2
Sugar, granulated.....teaspoonfuls 4
Shaved ice.....glassful ⅓
Mix with some "soda" water by stirring, strain into a 12-ounce glass, and fill the latter with the coarse stream of carbonated water.

Sparkling Spray.

Juice of 1 lemon,
Juice of 2 oranges,
Sugar.....about oz. 1
Cracked or shaved ice.....glassful ¼
Draw into a 12-ounce glass, fill the latter with the coarse stream of carbonated water, stir well, and serve with straws.

Strawberry Glace.

Prepare like pineapple smash, using strawberry syrup or fruit for the other syrups or fruit.

Sunset.

Juice of 1 lemon,
Sugar, powdered.....teaspoonful 1
Lemon syrup.....fl.oz. ½
Mix juice, sugar and syrup in a shaker, fill an 8-ounce glass to within one-half inch of the top with shaved ice and plain water, add this to mixture in shaker, shake well, strain into the glass, filling latter only to within half an inch of the top, then carefully pour down the side of the glass enough blackberry wine to fill the glass—do not stir—top off with a slice of orange, and serve with straws.

—Webster & Churchill, Minneapolis, Minn.

Tamarinda.

Prepare a syrup as follows:

Port wine	fl.oz.	4
Tartaric acid	av.oz.	½
Syrup, enough to make	fl.oz.	32

Serve 1 fluidounce "solid" in an 8-ounce glass with enough carbonated water to fill the latter.

—Hugh A. Sloan, Buffalo, N. Y.

Thirst Quencher.

Raspberry syrup	fl.oz.	2
Solution of acid phosphates	fl.dr.	1
Juice of one-half lemon,		
Shaved ice	about oz.	2
Water	fl.oz.	8

Mix well by agitating in a shaker, strain, and add enough water to fill an 8-ounce glass.

Tropi-Trin.

Make a syrup as follows:

Lemon essence	fl.dr.	1
Orange essence	fl.dr.	1
Vanilla extract	fl.dr.	1
Solution of citric acid	fl.oz.	1
Syrup, enough to make	fl.oz.	32

Draw 1½ fluidounces in a 12-ounce glass, and serve foaming by filling with the coarse and fine streams of carbonated water.

Tulip Peach.

Prepare like pineapple smash, using peach syrup for flavoring and sweetening.

Turkish Sherbet.

Blood orange syrup	fl.oz.	½
Sherbet syrup	fl.oz.	1

Draw the above into an 8-ounce glass, fill the latter with very finely shaved ice, add as much carbonated water, coarse stream, as the glass will hold, and serve with a spoon.

Vienna.

Pistachio syrup	fl.oz.	2
Cream	fl.oz.	½ to 1
Shaved ice	about oz.	4
Vichy water		sufficient

Stir the syrup, cream, ice and about 6 fluidounces of water in a shaker until well mixed, strain into a 12-ounce glass and fill the latter with vichy water.

Vinola Flip.

Sherbet syrup	fl.oz.	1
Lemon syrup	fl.oz.	1
Cream	fl.oz.	1
Ice cream	spoonful	1
Egg		1
Nutmeg	a dash	

Shake all together in a shaker, strain into a 12-ounce glass, and fill with the coarse and fine streams of carbonated water.

Viola Mint. (Limona Mint.)

Prepare a syrup as follows:

Lemon juice	fl.oz.	4
Peppermint essence	fl.dr.	4
Solution of citric acid	fl.dr.	1
Syrup, enough to make	fl.oz.	32
Gum foam		sufficient

This may be dispensed "solid" in 8-ounce glasses or with foam in 12-ounce glasses.

White Lion.

Lime juice	fl.dr.	4
Ginger essence	fl.dr.	1
Lemon syrup	fl.dr.	4
Raspberry syrup	fl.dr.	1
Shaved ice	glassful	½
Carbonated water, coarse stream, enough to fill an 8-ounce glass		

Wild Cherry Sherbet.

Prepare a syrup as follows:

Wild cherry syrup	fl.oz.	9
Sherbet syrup	fl.oz.	4
Elixir of calisaya	fl.dr.	2
Acid phosphate	fl.dr.	2
Port wine	fl.oz.	1½
Water	fl.oz.	2

—Campbell & Bro., Philadelphia, Pa.

Windsor Spray.

Prepare a syrup as follows:

Pineapple syrup	fl.oz.	4
Strawberry syrup	fl.oz.	4
Vanilla extract	fl.dr.	4
Port wine	fl.oz.	2

Serve "solid" like the "phosphates."

Zero Freeze.

Lemon syrup	fl.oz.	2
Ice cream	spoonfuls	3
Shaved ice	glassfuls	¼

Mix in a 12-ounce glass, fill the latter with the coarse stream of carbonated water, and serve with a spoon.

CHAPTER XV.

ICE CREAMS AND WATER ICES.

Ice Cream.

Ice creams of the market always contain a variety of ingredients, such as condensed milk, cottonseed oil, artificial flavors, etc. Hence they are liable to be of suspicious character, and every one who has occasion to dispense ice cream should prepare it himself. If a small business is done, a one-gallon freezer will be of suitable size, larger ones being required when the demands of the business are greater. Small ones may be turned conveniently by hand, but larger ones require the use of a fly wheel, or else a small gas or gasoline engine will be necessary.

The mixture for freezing the cream is cracked ice and salt. The former may be made by pounding the ice with a regular ice pounder of the supply houses, or in its absence, the ice may be broken in a box or in a heavy burlap sack with a broad, heavy mallet. The salt should be the variety known as ground rock salt.

In freezing the mixture, it should be put into the can, with all the parts of the freezer in place, and if it be warm no attempt should be made to freeze it until it has cooled. Then surround the can with the cracked ice and ground salt, beginning with a layer of ice, alternating the layers of ice with layers of salt, the former to be each about 3 inches in depth, the latter about 1 inch. The layers should not extend above the cover of the can, so as not to interfere with the working parts of the freezer, and so that none of the salt mixture can pass into the can and spoil the contents of the latter. Entry of salt into the cream mixture must be rigidly avoided, as it will certainly spoil it From time to time the water from the melted ice should be drawn off from the tub and more salt and ice added, the latter to be stamped down with a stick. The salt and cracked ice should be kept at hand so that there may be no delay in replenishing the freezing mixture.

The freezer should be turned somewhat rapidly during freezing until the cream is quite solid. The dashers should then be removed, scraped clean, the cream packed down, the salt and ice mixture replenished, this time being allowed to cover the can completely; the whole should be covered with burlap or blanket, and set away for an hour or two to harden.

The amount of material put into a can should not fill it more than three-fourths, as the mixture expands considerably during freezing.

Two of the formulas given herewith for ice cream are flavored with popular flavors. However, the flavoring may be replaced by others, or may be entirely omitted. The ice cream used at the "soda" counter is usually either without flavor or has the flavor of vanilla; the latter is to be preferred.

Ice cream is best kept in a cabinet as described in Chapter II.

Ice Cream, Strawberry.

I.

Sugar, granulated	av.lb.	1½
Strawberry juice	fl.oz.	12
Milk	pint	1
Cream	pints	2
Eggs		4

Mix eggs and sugar thoroughly, add cream and milk, mix again, incorporate the juice, and freeze in the usual manner.

II.

Strawberry juice	fl.oz.	6
Sugar	av.lb.	1½
Cream (or half cream and milk)	gal.	¾
Eggs		6

Prepare like the preceding.

Ice Cream, Tutti Frutti.

Raspberry juice	fl.oz.	4
Pineapple juice	fl.oz.	4
Black cherry juice	fl.oz.	4
Orange wine	fl.oz.	2
Curacoa cordial	fl.oz.	2
Lemon juice	fl.oz.	1
Cream	gal.	½
Sugar	av.lb.	2

Prepare like other ice creams.

Ice Cream, Vanilla.

I.

Sugar, granulated	av.lb.	1
Eggs, fresh		12
Cream or milk, fresh	gal.	½
Salt	saltspoonful	1
Vanilla extract	fl.oz.	½ to 1
Gelatin	av.oz.	1

Into a clean copper or enameled-iron dish put the sugar and eggs, mix well together, add the milk, or cream, and salt, place the vessel upon the fire, and stir until it thickens (but not curdles). Strain into the freezing can, allow to cool, and add the extract and the gelatin dissolved in some hot water. Surround the can with the freezing mixture, and work the freezer slowly until it can no longer be worked; then remove the dashers, press the ice cream firmly down into the can, repack with fresh ice and salt, cover all with blankets or burlap, and set aside for an hour or two to harden.

The eggs may be reduced in number to 8.

II.

Sugar, granulated	av.oz.	12
Eggs		4
Milk	gal.	½
Vanilla extract	fl.oz.	½ to 1

Mix sugar and eggs by means of an egg beater, add the milk and extract, and freeze in the usual manner.

III.

Sugar	av.lb.	1½
Milk	pints	3
Cream	pints	3
Vanilla extract	fl.oz.	½
Eggs		2
Gelatin	av.oz.	½

Mix eggs thoroughly with a portion of the milk, add the remainder of the milk, the cream, sugar, and extract, and finally the gelatin dissolved in a small amount of hot water. Freeze in the usual manner.

IV.

Starch or arrowroot	av.oz.	1
Eggs		4
Milk	gal.	½
Cream	pints	2
Vanilla extract or other flavor		sufficient

Make a smooth mixture of the starch and eggs with a portion of the milk, heat the remainder of the milk, and when nearly boiling add it in small quantities to the starch and egg mixture with stirring. When one-half is added pour the mixture back into the hot milk, stir for a few moments, allow to cool, add the cream, and freeze.

V.

Condensed cream	pints	2
Milk	pints	5
Gelatin	gr.	60
Sugar	av.lb.	1

Dissolve the gelatin in a small amount of hot water, add to the remaining ingredients, and freeze as before.

VI.

Eggs		9
Sugar, granulated	av.lb.	1¼
Milk	gal.	½
Cream	gal.	½
Vanilla extract	fl.oz.	1½

Beat eggs and sugar together, add remaining ingredients, and freeze.

—F. W. Kisker, Cincinnati, O.

VII.

Cream	gal.	1
Milk	pints	2
Sugar, granulated	av.lb.	1½
Gelatin, Knox's granulated, by measure	oz.	1
Vanilla extract	fl.oz.	1½

Dissolve the gelatin in the milk in a water bath with as little heat as possible, add the cream, sugar, and extract, and freeze.

—James Vernor, Detroit, Mich.

VIII.

Pure cream	gal.	1
Unskimmed milk	gal.	1½
Gelatin (Kingery's)	av.oz.	3
Vanilla extract	fl.oz.	2
Sugar, powdered	av.lb.	2

Soak the gelatin over night and add to it ½ gallon of hot milk gradually; dissolve in this the sugar, and strain into the balance of the milk and cream. Place all in the freezer, allow mixture to cool in the ice 20 minutes or

more before adding salt, then proceed to freeze. In less than 30 minutes the plungers may be removed, and the cream is ready to repack.

It will be noticed that the cream swells 40 per cent to 50 per cent, according to the rapidity with which the churning is done.

—F. O. Christensen, Chicago, Ill.

Water Ices. (Ices.—Sherbets.)

These are prepared like the ice-creams, but are made without cream or milk, the latter being replaced by water or fruit juice, or a mixture of the two. The apparatus used in preparing them is an ice cream freezer. The freezing is the same as in the manufacture of ice cream. The manner of keeping them is also exactly the same.

If sugar is used in making an ice granulated sugar is to be preferred. The mixture is frequently stiffened by the addition of gelatin, first dissolved in hot water, or egg-white.

Ice, Plain. (Icing.)

This is water ice made by mixing sugar, water, and white of egg or gelatin, and freezing as directed above, not using any flavor whatever.

Ice or Sherbet, Cherry.

Cherry juice	fl.oz. 20
Syrup	fl.oz. 22
Oil of bitter almonds (deprived of hydrocyanic acid)	drops 5
Water	fl.oz. 30

Mix and freeze in the usual manner.

Ices or Sherbets, Fruit.

Crushed fruit	av.oz. 4
Fruit juice	fl.oz. 4
Solution of citric acid	fl.dr. 2
Gelatin	av.oz. ½
Sugar, granulated	av.lb. 1
Water	pints 3

Prepare like lemon or orange ice.

Any crushed fruit and fruit juice may be employed. Crushed pineapple and pineapple juice will make "pineapple ice," crushed strawberry and strawberry juice makes "strawberry ice," crushed raspberry and raspberry juice, "raspberry ice," etc.

The ice may be made richer by increasing the proportion of juice and decreasing the proportion of water. The crushed fruit may be replaced by juice, the gelatin by white of egg. The latter may be beaten to a froth, mixed with powdered sugar, and added to the ice after the latter has been partially frozen.

The following formula may also be employed:

Fruit juice	pint 1
Water	pints 3
Sugar	av.lb. 2 to 3
Glucose syrup	fl.oz. 4 to 8
Solution of citric acid	fl.dr. 2

Mix and freeze. The different fruit ices must be tinted suitably.

So-called "frozen fruit ices or sherbets" are made by working fruit (whole if like strawberry, or grated if like pineapple) into the freezing water ice.

Ice or Sherbet, Grape.

Grape juice	pints 1½
Water	pints 2½
Sugar, granulated	av.lb. 1½
Sugar, powder	tablespoonfuls 3
Whites of 3 eggs.	

Mix the juice, water and granulated sugar in a freezer and freeze partially; then add the egg-white previously well mixed with the powdered sugar, and freeze until hard.

Ambrosia, Grape.

Whites of 2 eggs,	
Sugar	av.oz. 10
Milk	pint 1
Water	pints 2
Grape juice	fl.oz. 4
Pineapple, grated	about pint ½
Solution of citric acid	fl.dr. 2
Lemon essence	fl.dr. ½

Beat egg-white to a froth, add the sugar, mix well, add the remaining ingredients, put all into a freezer and freeze in the usual manner.

Serve like ice cream.

Ice or Sherbet, Lemon.

Juice of 5 lemons (strained),	
Lemon essence	fl.dr. 2 to 4
Solution of citric acid	fl.dr. 4
Sugar, granulated	av.oz. 24
Gelatin	av.oz. ½
Water	fl.oz. 40

Dissolve the gelatin in some of the water heated to boiling, add the sugar, lemon juice, acid solution, and the remainder of the

water, mix, allow to cool, and freeze in the usual manner.

The solution of citric acid may be decreased or omitted.

Ice or Sherbet, Orange.

Juice of 5 oranges (strained),
Juice of 2 lemons (strained),
Orange essence.....fl.dr. 4 to 8
Solution of citric acid.....fl.dr. 2
Gelatin.....av.oz. ½
Sugar.....av.oz. 24
Water.....fl.oz. 24

Prepare like lemon ice.

The solution of citric acid may be omitted. The ice may be tinted with an orange or yellow color (see Chap. IV.).

Ice or Sherbet, Pineapple.

I.

Pineapple juice.....fl.oz. 16
Syrup.....fl.oz. 16
Water.....fl.oz. 8
Juice of 1 lemon,
Whites of 2 eggs.

Mix well, pour the mixture into the freezer, and freeze like other ices.

See also "Ices, Fruit."

II.

Pineapple juice.....fl.oz. 20
Syrup.....fl.oz. 24
Water.....fl.oz. 20

Mix and freeze like the preceding.

III.

Grated pineapple.....av.lb. 1
Pineapple juice.....fl.oz. 8
Milk.....pints 2
Water.....pints 2
Sugar, granulated.....av.lb. 2¼
Solution of citric acid.....fl.dr. 4

Mix and freeze.

—William A. Bishop, Savannah, Ga.

Ice or Sherbet, Raspberry.

Raspberry juice.....fl.oz. 14
Syrup.....fl.oz. 24
Water.....fl.oz. 26

Mix and freeze in the usual manner.

If black raspberry juice is used, no coloring will be required, otherwise it is advisable to add a small amount of compound tincture of cudbear.

See also "Ices, Fruit."

Ice or Sherbet, Strawberry.

Strawberry juice.....fl.oz. 20
Syrup.....fl.oz. 28
Orange flower water.....fl.dr. 1
Red coloring (see Chap. IV.).....
.....about fl.dr. 1
Water.....fl.oz. 24

Mix and freeze in the usual manner.

See also "Ices, Fruit."

CHAPTER XVI.

MEDICINAL DRINKS.

Drinks of a presumably medicinal character occur not only in this chapter, but in some of the others as well. For example, tonic, tonic beer, coca, coca vanilla, gentian, moxie, malto, ginger, ginger tonic, kola coca, kola vanilla, lactart, and tamarind syrups of Chapter VIII. are of more or less medicinal character. The same may be stated of the "phosphates" and lactarts (Chap. X.), all of the mineral waters (Chap. XVII.), many of the egg (Chap. XI.), cream and milk (Chap. XIII.), and fancy (Chap. XIV.) drinks.

Many valuable remarks and suggestions relating to medicinal drinks are contained in Chapter II.

All medicinal drinks are served "solid" in 8-ounce glasses, filling the latter with the coarse stream of carbonated water.

Angostura.

This is served at the "soda" counter by drawing ½ to 1 fluidounce of lemon or raspberry syrup in an 8-ounce glass, adding about 1 fluidram of angostura bitters, filling the glass with the coarse stream of carbonated water and stirring.

Beef and Coca.

Prepare a syrup as follows:

Elixir of coca	fl.oz.	2
Or		
Wine of coca	fl.oz.	4
Extract of beef	gr.	100
Water, hot	fl oz.	2
Rose essence	fl.dr.	2
Cinnamon syrup	fl.oz.	8
Orange syrup	fl.oz.	20

Dissolve the beef extract in the water, add the elixir or wine, filter, add enough water through the filter to restore the bulk, and to the filtrate add the remaining ingredients.

Serve "solid" in 8-ounce glasses, using about 1 fluidounce of the above for each glass.

Beef, Iron and Cinchona.

Prepare a syrup as follows:

Elixir of cinchona or compound elixir of quinine	fl.oz.	2
Beef, wine and iron	fl.oz.	6
Vanilla syrup	fl.oz.	12
Lemon syrup	fl.oz.	12

Serve like the preceding.

Beef, Iron and Coca.

Prepare a syrup as follows:

Elixir of coca	fl.oz.	2
Beef, wine and iron	fl.oz.	6
Vanilla syrup	fl.oz.	12
Lemon syrup	fl.oz.	12

Serve like the preceding.

Beef, Iron and Kola.

Prepare a syrup as follows:

Fluid extract of kola	fl.dr.	2 to 4
Beef, wine and iron	fl.oz.	6
Lemon syrup	fl.oz.	12
Vanilla syrup..enough to make	fl.oz.	32

Serve like the preceding.

Beef, Wine and Iron.

Prepare a syrup as follows:

Beef, wine and iron	fl.oz.	8
Vanilla syrup	fl.oz.	24

Or instead of vanilla syrup, use a mixture of equal parts vanilla and lemon syrups.

Serve like the preceding.

Calisaya Cordial. (Calisaya Syrup.)

Elixir of calisaya	fl.oz.	8
Orange syrup (red or white) or lemon syrup	fl.oz.	24

For formula for elixir of calisaya, see "Calisaya Phosphate Syrup," Chapter X.

Serve "solid" like the preceding.

See also "Cinisaya," Chapter XIV.

Calisaya Syrup.

Essence de calisaya.....fl.oz. 2
French brandy.....fl.oz. 2
Solution of citric acid.....fl.dr. 2
Caramel red.....fl.dr. 2
Syrup.....enough to make fl.oz. 32

The "caramel red" is prepared from

Caramel.....oz. 2
Carmine solution.....fl.oz. 4
Water.....fl.oz. 4
Alcohol.....enough to make fl.oz. 16

—W. M. Benton, Peoria, Ill.

Calisaya Tonic. (Calisaya Syrup.)

I.

Cinchona bark.....gr. 120
Gentian root.....av.oz. ¾
Orange peel.....av.oz. 3
Cochineal.....gr. 60
Caraway seed.....gr. 30
Diluted alcohol.....sufficient
Quinine sulphate.....gr. 8
Oil of rose.....drop 1
Simple syrup, U.S.P.,
.....enough to make gal. 1

Mix the calisaya, gentian, orange peel, cochineal and caraway, reduce to coarse powder, and extract by percolation by means of diluted alcohol, so as to obtain 16 fluidounces of percolate; to this add the remaining ingredients.

In dispensing as a carbonated beverage, it is best to draw "solid" (without foam).

II.

Red cinchona.....av.oz. 4
Gentian.....av.oz. 1
Orange peel.....av.oz. 1½
Cinnamon.....av.oz. 1
Water,
Alcohol.....of each sufficient
Simple syrup, U.S.P.....fl.oz. 64

Mix the drugs, reduce to coarse powder, and extract by percolation so as to obtain 32 fluidounces of percolate, using a menstruum consisting of 1 volume of water and 2 of alcohol. To this percolate should be added the syrup.

III.

See also "Calisaya Phosphate Syrup," (Chap. X.), "Egg Calisaya" (Chap. XI.), and other calisaya (cinchona) drinks in this chapter.

Cascara Syrup.

Cascara extract (Chap. VI.)....fl.oz. 1½
Orange essence.....fl.dr. 4
Syrup.....enough to make fl.oz. 32

Serve "solid" in 8-ounce glasses.

Coca-Calisaya.

I.

Prepare a syrup as follows:

Coca wine.....fl.oz. 4
Calisaya elixir.....fl.oz. 4
Orange syrup (red or white)....fl.oz. 24

Serve "solid" like the preceding.

II.

Prepare a syrup as follows:

Wine of coca.....fl.oz. 4
Elixir of calisaya.....fl.oz. 6
Syrup.....fl.oz. 8

—Campbell & Bro., Philadelphia, Pa.

Coca Malt.

Coca syrup.....fl.oz. ½
Fluid extract of malt.....fl.oz. ½
Carbonated water, coarse stream
.....enough to fill an 8-ounce glass

Serve "solid."

Coca Tonic.

Prepare a syrup as follows:

Coca wine.....fl.oz. 8
Or
Elixir of coca.....fl.oz. 4
Orange syrup (red or white)
.....enough to make fl.oz. 32

Serve "solid" like the preceding.

For other coca drinks see "Coca Syrup" and "Coca Vanilla Syrup" (Chap. VIII.), "Coca Phosphate" and "Coca Egg Phosphate" (Chap. X.), and others in this chapter.

Coca Tonique.

Fluid extract of kola.....fl.oz. ½
Wine of coca.....fl.oz. 6
Sherry wine.....fl.oz. 2
Blackberry brandy or cordial...fl.oz. 1
Lime juice.....fl.oz. 1
Raspberry juice.....fl.oz. 4
Syrup.....enough to make fl.oz. 32

Serve "solid" in an 8-ounce glass, like the "phosphates," but adding a small amount of shaved ice.

Ginger Malt.

I.

Ginger syrup.....fl.oz. ¾
Fluid extract of malt.....fl.oz. ½
Carbonated water, coarse stream
.....enough to fill an 8-ounce glass

Serve "solid."

II.

Prepare a syrup as follows:

Fluid extract of ginger, soluble	fl.oz.	1½
Extract of malt, Tarrant's	bottle	1
Extract of bitter sweet	oz.	½
Syrup	enough to make gal.	½

—Thomas & Thompson, Baltimore, Md.

Ginger Wine. (Jamaica Ginger Wine.)

This may be prepared by macerating ½ av. ounce of powdered Jamaica ginger in 1 quart of sherry or other light wine for several days, agitating occasionally and filtering. Or it may be made by flavoring wine with ginger essence (see Chap. VI.).

In serving, draw about 6 fluidounces of carbonated water, coarse stream, into an 8-ounce glass, and add 2 fluidounces of the wine. It may be sweetened by adding ginger syrup or powdered sugar.

Headache Powder.

Acetanilid, powder	av.oz.	½
Tartaric acid	av.oz.	2¼
Sodium bicarbonate	av.oz.	2½
Potassium bromide	av.oz.	1
Sugar, powder	av.oz.	2

This is to be intimately mixed and kept in a well-closed bottle.

In serving put a heaping teaspoonful in about 3 or 4 ounces of cold water, stir, and serve. It is to be drank during effervescence.

A wet spoon should never be put into the bottle, as the moisture will induce premature decomposition of the mixture.

The acetanilid of the above may be replaced by 45 grains of caffeine, and may then be called "effervescent potassium bromide with caffeine." The preparation may contain both caffeine and acetanilid. The first mentioned will satisfactorily replace a popular proprietary headache remedy.

Java Tonic.

Prepare a syrup as follows:

Compound tincture of cinchona	fl.dr.	6
Coffee syrup	fl.oz.	8
Vanilla syrup	fl.oz.	4
Glucose syrup	fl.oz.	8
Syrup	enough to make fl.oz.	32

Serve "solid" like any of the preceding.

Kola-Coca Cordial.

Prepare a syrup as follows:

Fluid extract of kola	fl.oz.	1
Elixir of coca	fl.oz.	2
Or		
Wine of coca	fl.oz.	4
Vanilla extract	fl.dr.	2
Rose essence	fl.dr.	2
Cinnamon essence	fl.dr.	2
Simple syrup, U.S.P. enough to make	fl.oz.	32

Serve "solid" in 8-ounce glasses like any of the preceding.

Kola Tonic.

Prepare a syrup as follows:

Fluid extract of kola	fl.dr.	2
Solution of citric acid	fl.dr.	4
Syrup enough to make	fl.oz.	32
Caramel, or tincture or compound tincture of cudbear	sufficient to color	

Serve "solid" in 8-ounce glasses like the "phosphates."

Lime Juice and Pepsin.

I.

Prepare a syrup as follows:

Lime juice and pepsin	fl.oz.	9
Syrup	fl.oz.	23

Serve "solid" like any of the preceding.

Instead of having this syrup prepared, about 1 or 2 fluidrams of lime juice and pepsin, and 1 fluidounce of plain or lemon syrup may be added to carbonated water contained in an 8-ounce glass.

The Lime Juice and Pepsin may be prepared as follows:

Pepsin, pure	gr.	256
Water	fl.oz.	3
Glycerin	fl.oz.	3
Alcohol	fl.oz.	1½
Talcum, purified	av.oz.	½
Lime juice enough to make	fl.oz.	16

Dissolve the pepsin in the water mixed with about 8 fluidounces of lime juice, add the glycerin and alcohol and then the remainder of the juice; incorporate the talcum, set aside for several days, agitating occasionally, and then filter, adding through the filter enough lime juice to make 16 fluidounces.—N. F.

II.

Prepare a syrup as follows:

Lime juice and pepsin.....fl.oz. 4
Lime juice.....fl.oz. 8
Lemon syrup.....fl.oz. 8
Extract of violets, French's.....fl.dr. 2
Solution of citric acid.....fl.dr. 6
Syrup.....enough to make gal. 1

—W. M. Benton, Peoria, Ill.

Malt Hypophosphites.

Prepare a syrup as follows:

Fluid extract of malt.....fl.oz. 3
Syrup of hypophosphites.....fl.oz. 3
Angostura bitters.....fl.oz. ½
Syrup.....enough to make fl.oz. 16

Serve "solid" in 8-ounce glasses.

Malt Tonic.

Prepare a syrup as follows:

Fluid extract of malt.....fl.oz. 6
Angostura bitters.....fl.oz. ½
Syrup.....enough to make fl.oz. 16

Serve "solid" in 8-ounce glasses.

Orange Malt.

Orange syrup.....fl.oz. ½
Fluid extract of malt.....fl.oz. ½
Carbonated water, coarse stream..
.....enough to fill an 8-ounce glass

Serve "solid."

Oxford Cordial.

Prepare a syrup as follows:

Elixir of calisaya.....fl.oz. 4
Claret wine.....fl.oz. 4
Solution of citric acid.....fl.dr. 2
Water.....fl.oz. 8
Simple syrup..enough to make fl.oz. 32

In serving, use 1 fluidounce to an 8-ounce glass, add some shaved ice, and fill with the coarse stream of carbonated water, making a "solid" drink.

—Benj. Rosenzweig, Brooklyn, N. Y.

Pepsin and Iron.

Prepare a syrup as follows:

Tincture of citrochloride of iron.fl.oz. ½
Elixir of pepsin.....fl.oz. 7½
Vanilla syrup.....fl.oz. 24

Serve "solid" like the preceding.

Phosphated Syrup.

Phosphoric acid, 50 per cent....fl.dr. 4
Or
Phosphoric acid, 85 per cent....fl.dr. 2½
Sodium phosphate.....av.oz. ¼
Water.....fl.oz. 1
Lemon or vanilla syrup.....enough

Dissolve the sodium phosphate in the water, and add the remaining ingredients.

Serve "solid" like any of the preceding.

Tonic Hypophosphites.

Prepare a syrup as follows:

Syrup of hypophosphites, U. S. P.....fl.oz. 4
Vanilla syrup.....fl.oz. 28

Serve "solid" like any of the preceding.

Wild Cherry and Iron.

Prepare a syrup as follows:

Tincture of citrochloride of iron.fl.oz. ½
Syrup of wild cherry, U.S.P...fl.oz. 8
Orange syrup.....fl.oz. 8
Black cherry syrup.....
.....enough to make fl.oz. 32

Serve "solid" like any of the preceding.

CHAPTER XVII.

MINERAL WATERS AND SALTS.

Artificial mineral waters are compounded by dissolving mixtures of salts in water in such a manner that a close approximation is made to the natural product. It is, however, impossible exactly to reproduce the natural water, but the formulas in this chapter will furnish products practically equivalent to the waters themselves. Only pure salts should be used in making these waters, and distilled water only should be employed for solution. The calcium sulphate used in these waters should be freshly precipitated by mixing any soluble calcium salt with a soluble sulphate and collecting the precipitate. The solution of calcium chloride given below may be mixed with a solution of sodium sulphate. If 1 fluidounce of the solution of calcium chloride be mixed with 412 grains of pure crystalline sodium sulphate (first dissolved in some water), 174 grains of calcium sulphate and 150 grains of sodium chloride will be formed, the former precipitating, the latter remaining in solution. If a larger or smaller amount of calcium sulphate be required, the calcium chloride and sodium sulphate may be increased or decreased correspondingly. Inasmuch as all waters contain sodium chloride, it is not even necessary to separate the precipitate from the liquid in the above reaction, but the whole mixture may be used. If water is to be made with sodium chloride, the amount of sodium chloride formed in the reaction should be calculated, and this amount be deducted from the sodium chloride used in the water.

The sodium chloride used in these waters should be the best table salt. For the calcium carbonate use precipitated chalk. Sodium carbonate and bicarbonate may be used indiscriminately in these waters, providing account be taken of the fact that 7 parts of sodium bicarbonate are equivalent to 12 parts of crystallized sodium carbonate.

Not all of the salts used in making artificial waters are readily soluble—calcium sulphate and carbonate and magnesium carbonate, for example. The latter two are dissolved in the water when the latter is charged with gas; the former is dissolved by the large volume of water used.

All of the remaining salts are readily soluble in water; these should be dissolved in water and filtered before using, so as to remove any mechanical impurities which may be present, and which would be liable to clog the fountain pipes.

Mineral waters need not be charged to as high pressure as plain water; 100 to 125 pounds will be sufficient.

Solution of Calcium Chloride.

A 25 per cent (nearly) solution of calcium chloride may be prepared as follows:

Hydrochloric acid	fl.oz. 10
Water	fl.oz. 8
Marble, white, in small pieces	sufficient to saturate

The acid should be full U. S. P. strength, but need not necessarily be chemically pure; if free from arsenic it will be satisfactory.

Any other form of calcium carbonate may be substituted for the marble, as chalk or whiting, but the reaction produced by the latter is excessively violent and rapid. The marble or chalk must be added until there is no further evolution of gas. It may be added in excess if desired, as this excess will separate out from the liquid. About 4½ av. ounces of calcium carbonate will be required for saturation.

If this solution be employed for making mineral waters, a quantity must always be kept on hand, as it cannot be filtered, and therefore

must stand quiet for some time to allow the solid particles to subside and leave a clear, supernatant liquid.

This solution may be substituted for the salt in mineral waters in quadruple proportion; that is, for every av. ounce of calcium chloride use 3½ fluidounces of the solution.

Solution of Magnesium Chloride.

A 25 per cent (nearly) solution of magnesium chloride may be prepared like the preceding solution, substituting magnesium carbonate for the marble or chalk. About 4 av. ounces of the carbonate will be required for saturation.

It is to be substituted for the dry salt in mineral waters like the preceding.

Apollinaris Water, Artificial.

I.

Sodium bicarbonate.....av.oz.	2
Sodium sulphate, crystal, gr...av.oz.	1
Sodium chloride.....av.oz.	¾
Magnesium carbonate, powder...gr:	300
Calcium carbonate, precipitated..gr.	25
Water.....enough to make gal.	10

Mix and charge in the usual manner.

This makes a water nearly approximating the natural product.

II.

Sodium bicarbonate.....av.oz.	1½
Sodium chloride.....av.oz.	½
Sodium sulphate, crystal.....gr.	145
Magnesium carbonate.....av.oz.	½
Potassium sulphate.....av.oz.	¼
Water.....enough to make gal.	10

Mix and charge in the usual manner.

III.

Sodium carbonate, crystal.....av.oz.	2½
Sodium sulphate, crystal.....av.oz.	½
Sodium chloride.....av.oz.	½
Magnesium carbonate, powder.av.oz.	½
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Baden Water, Artificial.

Sodium chloride.....av.oz.	5½
Sodium sulphate, crystal.....gr.	800
Sodium carbonate, pure, crystal..gr.	80
Calcium chloride, dry.....av.oz.	7¼
Magnesium chloride, dry.....gr.	160
Iron perchloride.....gr.	20
Or	
Solution of iron chloride, U. S. P.....fl.dr.	1½
Water.....enough to make gal.	10

Mix and charge in the usual manner.

See formulas for Solutions of Calcium and Magnesium Chlorides.

Bethesda Water, Artificial.

Sodium carbonate, crystal, pure..gr.	100
Sodium sulphate, crystal.....gr.	30
Sodium chloride.....gr.	8
Potassium sulphate.....gr.	5
Calcium carbonate, precipitated..gr.	120
Magnesium carbonate.....gr.	135
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Blue Lick Water, Artificial.

Sodium chloride.....av.oz.	11¼
Sodium carbonate, crystal, pure.....av.oz.	3½
Sodium sulphide.....gr.	20
Sodium bromide.....gr.	15
Potassium chloride.....av.oz.	¼
Calcium sulphate, precipitated.av.oz.	1
Calcium chloride, dry.....gr.	250
Magnesium chloride, dry....av.oz.	¾
Water.....enough to make gal.	10

Mix and charge in the usual manner.

See formulas for Solutions of Calcium and Magnesium Chlorides.

Carlsbad Water, Artificial.

Sodium sulphate, dried.....gr.	150
Or	
Sodium sulphate, pure, crystal...gr.	300
Sodium bicarbonate.....gr.	125
Or	
Sodium carbonate, pure, crystal, gr.	210
Sodium chloride.....gr.	60
Potassium sulphate.....gr.	7
Water, distilled, enough to make gal.	1

Dissolve and filter.

This mixture closely represents Carlsbad Sprudel water in its essential constituents.

Chalybeate Water, Artificial.

Ferrous sulphate, pure.....gr.	160
Sodium chloride.....gr.	160
Sodium carbonate, crystal, pure..gr.	240
Calcium chloride, dry.....gr.	160
Water.....enough to make gal.	10

Mix and charge in the usual manner.

See formula for Solution of Calcium Chloride

Cheltenham Water, Artificial.

Sodium sulphate, crystal.....av.oz.	14¾
Sodium chloride.....av.oz.	7½
Sodium carbonate, crystal, pure.....av.oz.	4½
Calcium chloride.....av.oz.	1¼
Magnesium chloride.....gr.	288
Magnesium sulphate.....av.oz.	9½
Water.....enough to make gal.	10

Mix and charge in the usual manner.

See formulas for Solutions of Calcium and Magnesium Chlorides.

Congress Water, Artificial.

Sodium bicarbonate.....av oz.	5½
Sodium chloride.....av.oz.	2½
Potassium bicarbonate.....av.oz.	¾
Magnesium sulphate, crystal.av.oz.	3¾
Calcium chloride, dry.....av.oz.	3½
Water.....enough to make gal.	10

Dissolve the calcium chloride and magnesium sulphate each in 12 fluidounces of water, mix the solutions and after 10 or 15 minutes strain the liquid through muslin with thorough pressure.

Powder the potassium bicarbonate in a mortar, add the sodium chloride and bicarbonate, mix the whole with 16 fluidounces of water, pass the magma through a No. 50 hair sieve, following it with another 16 fluidounces of water, then with the calcium and magnesium solution first obtained, and finally with more water, until the united liquids measure four pints. Shake the mixture, pour into the fountain, fill the latter with water, and charge the whole in the usual way with carbonic acid gas.

Inasmuch as the mixture of magnesium sulphate and calcium chloride has for its object the formation of magnesium chloride, the following solution may be substituted therefor:

Calcium chloride (anhydrous)..av.oz.	2
Magnesium chloride (anhydrous).... .....av.oz.	1½
Water..... .....fl.oz.	16

Dissolve and mix the sodium chloride and bicarbonate and potassium bicarbonate as before.

See also formulas for Solutions of Calcium and Magnesium Chlorides.

Crab Orchard Water, Artificial.

Magnesium sulphate, crystal..av.oz.	4¾
Sodium sulphate, crystal.....av.oz.	3¼
Potassium sulphate.....av.oz.	1¼
Sodium chloride .....av.oz.	3½
Water .....enough to make gal.	10

Mix and charge in the usual manner.

Deep Rock Water, Artificial.

Sodium chloride .....av.oz.	8¾
Sodium bicarbonate .....av.oz.	5½
Potassium chloride.....av.oz.	4½
Calcium chloride .....gr.	140
Magnesium chloride .....gr.	15
Water .....enough to make gal.	10

Mix and charge in the usual manner.

See formulas for Solutions of Calcium and Magnesium Chlorides.

Ems (Kessel) Water, Artificial.

Sodium chloride.....av.oz. 1, gr.	30
Sodium bicarbonate.....gr.	150
Magnesium sulphate, crystal..av.oz.	½
Calcium sulphate, precipitated...gr.	180
Potassium sulphate .....gr.	30
Water..... enough to make gal.	10

Mix and charge in the usual manner.

Ems (Kraenchen) Water, Artificial.

Sodium chloride.....av.oz. 1, gr.	70
Sodium bicarbonate.....gr.	125
Magnesium sulphate, crystal....gr.	200
Calcium sulphate, precipitated...gr.	160
Potassium sulphate .....gr.	25
Water..... enough to make gal.	10

Mix and charge in the usual manner.

Friedrichshall Water, Artificial.

I.

Sodium chloride .....av.oz.	10¼
Sodium bicarbonate.....gr.	384
Sodium sulphate, crystal.....av.oz.	1¼
Potassium sulphate .....gr.	165
Magnesium sulphate, crystal..av.oz.	20
Calcium chloride, dry .....av.oz.	1
Water..... enough to make gal.	10

Triturate the potassium and sodium sulphates in a mortar, add the magnesium sulphate and then 3 pints of water, and stir until dissolved; now add the sodium chloride and bicarbonate, continue the stirring for a few minutes, pour the mixture on a No. 50 hair sieve, add the calcium chloride previously dissolved in 8 fluidounces of water, and then enough water to make the whole measure 4 pints. Pour this into the fountain, fill the latter with water and charge with carbonic acid gas in the usual manner.

See formula for Solution of Calcium Chloride.

II.

Magnesium sulphate, crystal..av.oz.	29
Sodium chloride .....av.oz.	15
Sodium sulphate, crystal.....av.oz.	11¾
Sodium bicarbonate .....gr.	585
Sodium bromide.....gr.	80
Potassium sulphate .....gr.	60
Calcium sulphate, precipitated, ...av.oz. 2, gr.	90
Water..... enough to make gal.	10

This formula will more closely approximate the natural water than the first formula, but the latter is usually quite strong enough.

Geyser Water, Artificial.

Sodium sulphate, crystal.....av.oz.	2
Sodium bicarbonate.....av.oz.	½
Ammonium chloride.....gr.	120
Lithium citrate.....gr.	4
Water..... enough to make gal.	10

Mix and charge in the usual manner.

Harrogate Water, Artificial.

Sodium chloride.....av.oz.	¾
Sodium bicarbonate.....gr.	6
Magnesium chloride, dry .....gr.	20
Calcium chloride, dry.....gr.	32
Sulphuretted water.....fl.oz.	5
Water..... enough to make gal.	½

Dissolve the salts in the water, filter, and add the sulphuretted water. The latter may be prepared by saturating cold water with sulphuretted hydrogen. It may be replaced by using 80 grains of sulphurated potash or soda (so-called potassium or sodium sulphide). If either of these is used, all the salts must be added to the water and then filtered.

See formulas for Solutions of Calcium and Magnesium Chlorides.

Hathorn Water, Artificial.

Sodium carbonate, crystal, pure.....av.oz.	45
Sodium chloride.....av.oz.	4¾
Sodium bromide.....gr.	15
Potassium chloride.....gr.	100
Calcium chloride, dry.....av.oz.	3
Magnesium chloride, dry.....av.oz.	3
Water..... enough to make gal.	10

Mix and charge in the usual manner.

See formulas for Solutions of Magnesium and Calcium Chlorides.

High Rock Water, Artificial.

Vichy, Deep Rock or Seltzer Water may be dispensed for it.

Hunyadi Water, Artificial.

I.

Magnesium sulphate, crystal...gr.	1080
Sodium sulphate, crystal.....gr.	1040
Potassium sulphate .....gr.	5
Sodium chloride.....gr.	80
Sodium bicarbonate.....gr.	30
Water, distilled, ...enough to make gal.	½

Mix, dissolve and filter.

II.

Potassium sulphate ....gr.	5
Calcium sulphate, precipitated....gr.	30
Sodium sulphate, crystal.....av.oz.	1¾
Magnesium sulphate, crystal ..av.oz.	2¼
Water, distilled..enough to make gal.	½

Mix, dissolve and filter.

III.

Sodium sulphate, crystal.....av.oz.	4
Magnesium sulphate, crystal. av.oz.	½
Sodium bicarbonate.....gr.	250
Sodium chloride.....gr.	70
Calcium sulphate, precipitated...gr.	75
Potassium sulphate.....gr.	3
Ferrous sulphate, crystal.....gr.	3
Water, distilled, enough to make gal.	½

Mix, dissolve and filter.

Kissingen Water, Artificial.

I.

Potassium bicarbonate.....gr.	270
Magnesium sulphate, crystal.av.oz.	3¼
Sodium bicarbonate.....av.oz.	2¼
Sodium chloride, pure.....av.oz.	8½
Calcium chloride, dry.....av.oz.	2¼
Water.....enough to make gal.	10

Pulverize the potassium bicarbonate in a mortar, add the sodium bicarbonate and magnesium sulphate and triturate the mixture with 1 pint of water until the potassium and magnesium salts are dissolved. Pass the magma through a No. 50 hair sieve, washing what may remain on the sieve through with another pint of water.

Next rub the sodium chloride with 24 fluidounces of water until nearly dissolved, and pass this liquid through the sieve.

Finally dissolve the calcium chloride in a few fluidounces of water, pass it through the sieve, and add a little more water to dissolve all the salt, using enough water to make the combined liquids measure 4 pints. Shake the whole well and pour into the fountain, fill the latter with water, and charge with carbonic acid gas in the usual manner.

See formula for Solution of Calcium Chloride.

II.

Sodium chloride.....av.oz.	7¾
Sodium bicarbonate....av.oz. 2, gr.	140
Magnesium sulphate, crystal.....av.oz. 2, gr.	60
Potassium chloride.....gr.	160
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Lithia Water.

Lithium carbonate.....gr.	120
Sodium bicarbonate.....av.oz.	2½
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Leamington Water, Artificial.

Sodium sulphate, crystal.....av.lb.	2
Sodium chloride.....av.oz.	4¾
Calcium chloride, dry.....av.oz.	4
Magnesium chloride, dry.....av.oz.	1¾
Water.....enough to make gal.	10

Mix and charge in the usual manner.

See formulas for Solutions of Calcium and Magnesium Chlorides.

Magnesian Aperient Water. (Magnesium Citrate Solution.)

Citrate of magnesia solution may be charged in fountains and served at the fountain if desired. It makes a very pleasant aperient, which will be relished by a great many persons.

The solution of magnesium citrate prepared in the usual manner for bottling (syrup added, filtered, etc.), should be poured into a clean fountain, all of the potassium bicarbonate should be added, the fountain at once closed, and then charged to about 75 pounds pressure. The potassium bicarbonate may be omitted.

About 2 gallons of solution may be prepared at a time.

This may be served in 8-ounce glasses.

Marienbad Water, Artificial.

Sodium sulphate, crystal.....av.oz.	17
Sodium carbonate, pure, crystal.....av.oz. 7, gr.	140
Sodium chloride.....av.oz.	2¾
Calcium chloride, dry.....av.oz.	1¾
Magnesium sulphate, crystal.av.oz.	1½
Water.....enough to make gal.	10

Mix and charge in the usual manner.

The solution may also be made with ordinary water (without gas) for bottling purposes.

Pullna Water, Artificial.

Magnesium sulphate, crystal..av.oz.	42
Sodium sulphate, crystal.....av.oz.	34
Sodium chloride.....av.oz. 3, gr.	150
Sodium bicarbonate.....av.oz.	2¼
Potassium sulphate.....gr.	350
Calcium sulphate, precipitated..gr.	350
Water.....enough to make gal.	10

Mix and charge in the usual manner.

The above produces a close approximation to the natural water. Many formulas which are given make a very much weaker product.

Pyrmont Water, Artificial.

Calcium chloride, dry.....av.oz.	2½
Sodium carbonate, crystal....av.oz.	3½
Sodium sulphate, crystal.....av.oz. 3, gr.	55
Magnesium sulphate, crystal.....av.oz.1, gr.	384
Ferrous sulphate, crystal, pure..gr.	80
Water.....enough to make gal.	10

Dissolve the calcium chloride in 8 fluidounces of water (or use 9 fluidounces of the Solution of Calcium Chloride), and the sodium sulphate and carbonate together in 1 pint of water by aid of heat; filter the latter solution, and while yet hot add to it the calcium chloride solution. After 10 or 15 minutes the precipitate will have contracted to a heavy mass at the bottom of the vessel. The supernatant liquid should then be decanted without losing any of the precipitate. To the latter add the magnesium sulphate, shake thoroughly and rinse into the fountain nearly filled with water. Charge with carbonic acid gas to a pressure of 20 pounds, reopen the fountain, throw in the ferrous sulphate, coarsely powdered, close again, and charge to the usual pressure.

The object of charging lightly first before introducing the iron salt is to prevent oxidation of the latter.

Saratoga Water, Artificial.

Sodium chloride.....av.oz.	3
Sodium sulphate, crystal.....av.oz.	2½
Sodium bicarbonate.....av.oz.	2
Magnesium carbonate, powder.av.oz.	1
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Selters (Seltzer) Water, Artificial.

I.

Sodium bicarbonate....av.oz. 3, gr.	384
Sodium chloride.....av.oz. 2, gr.	384
Calcium chloride, dry.....gr.	490
Magnesium sulphate, crystal.....av.oz. 1, gr.	165
Water.....enough to make gal.	10

Dissolve the calcium chloride and magnesium sulphate each in 4 fluidounces of water, mix the solution, let stand for 10 or 15 minutes, and strain through muslin with pressure.

Mix the sodium chloride and bicarbonate with a pint of water, pass the mixture through a No. 50 hair sieve, follow with the pre-

ceding liquid and then with enough water to make the liquid measure 4 pints. Shake the whole well, pour into fountain, fill the latter with water, and charge in the usual way with carbonic acid gas.

The first mixture is for the purpose of forming magnesium chloride, and hence the following solution may be used instead:

Calcium chloride, dry.....av.oz.	½
Magnesium chloride, dry.....av.oz.	½
Water.....fl.oz.	8

Add this to the sodium chloride and bicarbonate as before.

See also formulas for Solutions of Calcium and Magnesium Chlorides.

II.

Sodium carbonate, crystal, pure .....av.oz.	2, gr. 350
Sodium chloride.....av.oz.	1, gr. 180
Sodium sulphate, crystal..... .gr.	310
Water.....enough to make gal.	10

Introduce into a fountain and charge in the usual manner.

III.

Prepare a solution of magnesium chloride by stirring 20 grains of calcined magnesia in 6 fluidrams of water, adding sufficient hydrochloric acid to dissolve, and afterward water sufficient to make 1 fluidounce. Prepare also 10 per cent solutions of sodium carbonate, crystal, sodium sulphate, crystal, and calcium chloride in water. Take of these solutions as follows:

Solution of sodium carbonate...fl.oz.	10
Solution of calcium chloride....fl.oz.	2
Solution of magnesium chloride.fl.oz.	1½
Solution of sodium sulphate....fl dr.	2
Water.....enough to make gal.	1

Mix and charge in the usual manner.

Instead of using the solutions of calcium and magnesium chlorides given in this formula, see the solutions given above.

Star (Saratoga) Water, Artificial.

Sodium carbonate, crystal, pure.av.oz.	4½
Sodium chloride.....av.oz.	3
Sodium sulphate, crystal.....av.oz.	1
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Vichy Water, Artificial.

I.

Sodium bicarbonate.....av.oz.	10
Sodium phosphate, crystal...av.oz.	½
Sodium chloride.....av.oz.	¼
Potassium bicarbonate.....gr.	272
Magnesium sulphate, crystal....gr.	490
Calcium chloride, dry.....gr.	272
Water.....enough to make gal.	10

Triturate the sodium phosphate with the potassium bicarbonate, add the sodium chloride, magnesium sulphate and sodium bicarbonate, stir the mixture with 2 pints of water, pass the magma through a No. 50 hair sieve, rubbing through if necessary with the aid of a little more water.

Dissolve the calcium chloride in 4 fluidounces of water, add it to the other solution, and add enough water if necessary to make the whole measure 4 pints. Shake the whole well together, pour into a 10-gallon fountain, fill the latter with water, and charge with carbonic acid gas in the usual way.

See formula for Solution of Calcium Chloride.

II.

Sodium bicarbonate.....av.oz.	5¾
Sodium chloride.....gr.	230
Magnesium sulphate, crystal....gr.	190
Potassium carbonate.....gr.	120
Water.....enough to make gal.	10

Mix and charge in the usual manner.

White Rock Water, Artificial.

Apollinaris or Kissingen water may be dispensed for it, or the following may be employed:

Sodium carbonate, pure, crystal.gr.	85
Sodium sulphate, crystal.....gr.	520
Potassium sulphate.....gr.	100
Aluminium chloride.....gr.	240
Ferrous sulphate.....gr.	60
Calcium carbonate.....av.oz.	3½
Magnesium carbonate, powder.....av.oz.	4
Water.....enough to make gal.	10

Mix and charge in the usual manner.

Mineral Water Salts.

Mineral water salts for preparing the previously mentioned waters may be made by simply mixing the solid constituents mentioned in the formulas, finely powdering all the ingredients, and mixing intimately.

It is advisable in making these mineral salts to avoid, if possible, the use of deliquescent salts like calcium and magnesium chlorides; if more than one formula is given for a water use the salt mixture of the one not containing these salts. If but one formula is given, or if the formula containing these salts is preferred, the mixture should be preserved in well-stoppered bottles. If the salt is to contain sodium carbonate or bicarbonate, the calcium chloride may be replaced by calcium carbonate and sodium chloride. One hundred parts of calcium carbonate and 117 of sodium chloride are equivalent to 111 parts of calcium chloride and 142 parts of dried sodium carbonate. The latter formed in this reaction may replace a corresponding portion of the sodium carbonate or bicarbonate of the formula.

In making mineral water salts it is usual to reduce the bulk as much as possible. This may be accomplished by using dried or exsiccated instead of crystalline salts. Twelve parts of crystallized sodium carbonate may be replaced by 6 parts of dried sodium carbonate, or 7 of sodium bicarbonate; 9 parts of crystallized sodium sulphate by 4 of the dried salt; 5 parts of crystallized sodium phosphate by 2 parts of the dried; 16 parts of crystallized magnesium sulphate by 9 of the dried; 5 parts of crystallized ferrous sulphate by 3 of the dried; and 16 parts of potassium bicarbonate by 11 of potassium carbonate, but this substitution is not advisable, as the latter is usually too impure, and is deliquescent.

The calcium sulphate used should be freshly prepared, as described above under mineral waters, collecting the precipitate and drying it. Ordinary plaster of paris should not be employed.

CHAPTER XVIII.

COLD SODA ACCESSORIES.

In this chapter are grouped a miscellaneous collection of formulas for preparations mentioned in preceding chapters, which could not properly be placed in other chapters. They embrace preparations not generally employed directly for making beverages, but which enter into syrups, etc.

Celery Salt.

I.

Salt, table	av.oz.	4
Celery seed, fresh powder	av.oz.	1
Mace, powder	gr.	60
Pimento, powder	gr.	60

II.

Fine table salt	av.oz.	7
Celery seed, fresh powder	av.oz.	1

Cinchona, Elixir of. (Elixir of Calisaya.)

See "Calisaya Phosphate," Chapter X.

Coca, Elixir of.

Fluid extract of coca	fl.oz.	2
Alcohol	fl.oz.	1
Simple syrup	fl.oz.	2
Vanilla extract	fl.dr.	2
Talcum, purified	av.oz.	½
Aromatic (simple) elixir, enough to make	fl.oz.	16

Mix the fluid extract with the alcohol, syrup, 10 fluidounces of elixir, and the talcum, agitate thoroughly, set aside for 24 hours or more, agitating occasionally, filter, add the vanilla extract to the filtrate, and finally add the remainder of the elixir through the filter.—N. F.

Coca, Wine of.

Fluid extract of coca	fl.oz.	1
Alcohol	fl.oz.	1
Sugar	av.oz.	1
Claret or other nice wine, enough to make	fl.oz.	16

Mix, dissolve the sugar by agitation, and filter.—N. F.

Cream, Whipped. (Frosted Cream.—Carbonated Cream.—Cream Puff.—Cream Soda.)

Under the name "Whipped Cream" (and "Frosted Cream") are used two preparations which are entirely different in character, the one being actually a whipped cream, the other a preparation which is served from a charged fountain.

The first is prepared as follows:

Take a pint of fresh sweet cream which has been on the ice for at least half an hour (or long enough to become chilled); add one heaping tablespoonful of pulverized sugar, and one large spoonful of gelatin (previously dissolved in 2 fluidounces of water); whip slowly for a minute or two until heavy froth gathers on top. Skim off the dense froth and put in a container for counter use; continue thus whipping and skimming until the desired quantity of whipped cream is obtained, then strain off carefully what little fluid cream has accumulated, and it is ready for use.

The whipping may be done by means of a cream-whipper or egg-beater.

The cream should never be mixed with milk, as a mixture of the two does not whip well. The cream may be replaced by condensed milk or cream with water, adding one of the foam preparations, like white of egg, isinglass or gelatin.

Keep the vessel surrounded by cracked ice during whipping.

This is used for topping various fancy drinks, and is also used on very many hot soda drinks.

It is kept in a special container or bowl, which should be kept on ice, and is served from it with a spoon.

It should be made fresh every day.

For the second preparation, which also is known by the other names given above, various formulas have been offered as follows:

I.

Vanilla extract	fl.oz.	2
Caramel	av.oz.	1
Tincture of quillaia	fl.oz.	15
Gelatin solution	gal.	1
Syrup	gal.	1
Water	gal.	5

Introduce this mixture into a 10-gallon fountain and charge with carbonic acid gas to 90, 100, or 125 pounds (usually 100).

The Gelatin Solution consists of Cox's gelatin, 3 oz., and water, 1 gallon.

The caramel may be omitted.

II.

Glycerin	fl.oz.	8
Sugar	av.lb.	3½
Or		
Syrup, U. S. P.	gal.	½
Water	gal.	1
Whites of 6 eggs.		

Dissolve the sugar in the water, add the glycerin, beat the egg-white to froth, add the foregoing, introduce the whole into a fountain containing 5 gallons of water, and charge the whole as before.

III.

Cox's gelatin	boxes	2½
Whites of 10 eggs,		
Syrup	gal.	½
Orange essence	fl.oz.	1
Water	gal.	9½

Dissolve the gelatin in some of the water by the aid of heat, beat the egg-white thoroughly, add to the gelatin, add the syrup and extract, introduce this mixture and the remainder of the water into the fountain, and charge as before.

IV.

Gelatin	av.oz.	4
Whites of 8 eggs,		
Vanilla extract	fl.oz.	2
Syrup	gal.	1

Dissolve in one pint of hot water, thoroughly beat the egg-white, add to the gelatin solution, mix the whole with the syrup and extract, introduce into the fountain with 9 gallons of water, and charge as before.

V.

Cox's gelatin	boxes	2
Whites of 9 eggs,		
Vanilla extract	fl.oz.	2 or 3
Sugar	av.lb.	8
Or		
Syrup	gal.	1¼

Prepare like the preceding, adding finally enough water to make 10 gallons, and charge as before.

VI.

Gum arabic	av.lb.	2½
Sugar	av.lb.	7
Or		
Syrup	gal.	1
Benzoic acid	gr.	90
Water	pints	5

Dissolve the gum and acid in the water by agitation, strain and add the remaining ingredients, introduce into a fountain, add enough water to make 10 gallons, and charge as before.

Any of the above preparations can be made up with just sufficient water to dissolve gum, gelatin, sugar, etc., and be ready for use as required. When needed the mixture may be introduced into a fountain, enough water added, and the whole charged. Such mixture may be known as "Whipped Cream Syrup."

See also "Cream Float" and "Frosted Peach."

For method of serving, see "Cream Puff," Chapter XIV.

Cream Float.

Honey	av.lb.	12
Eggs, whites and shells		8
Mace, powder	gr.	45
Potassium carbonate	gr.	90
Gelatin, German silver	av.oz.	2
Vanilla extract	fl.oz.	2
Oil of lemon	fl.dr.	1
Oil of cloves	drops	40
Alcohol	fl.oz.	2
Water		sufficient

Heat the honey, egg-white and shells, mace and 6 gallons of water nearly to boiling, add the potassium carbonate, and skim off the froth that rises to the surface of the liquid. If the liquid remaining is not clear like wine, add 120 grains more of potassium carbonate, skimming as before, and to the clear liquid add the gelatin, pour into the

fountain, and add enough water to make 10 gallons. To this add the extract and oils dissolved in the alcohol, and charge with gas.

Serve like the preceding.

—Thomas & Thompson, Baltimore, Md.

Frosted Peach.

Gelatin .....av.oz, 8
Peach juice .....pints 2
Syrup .....pints 4
Vanilla extract .....fl.oz. 1
Water .....enough to make gal. 6
Carbonate in the fountain to 150 lbs.

Serve like the preceding.

—W. M. Benton, Peoria, Ill.

Fruits, Crushed. (Fruit Pulp.)

These are prepared by treating the fruit with sugar and water, as indicated below. Some soda foam should also be added.

Inasmuch as these fruits are exposed on the "soda" counter in fancy bowls with silver ladles, they decompose quite readily, and solution of salicylic acid must be added to insure preservation. The fruit which is not exposed on the counter should be kept in closed jars in a cool place. Only a small quantity of fruit should be put into the bowl at a time, and previous to refilling the latter it should always be washed.

These fruits are always served with ice cream, forming what is called "crushed fruit ice-cream soda." One or 1½ ladlefuls of crushed fruit may be put into a 12-ounce glass, the fine stream of carbonated water turned on for a moment, the ice cream added, the glass filled seven-eighths with the coarse stream of carbonated water, and finally topped off with the fine stream.

It is advisable, in serving, to use a ladleful of crushed fruit and about ½ fluidounce of the corresponding syrup from the fountain, or, better yet, the fruit should be mixed with some syrup when put into the bowl.

The fruit may be prepared as follows:

Strawberries, 3 small boxes,
Sugar, granulated .....av.lb. 4
Water .....pints 2

Remove the calyces from the fruit, wash with running water, mix with the sugar, either leaving the fruit whole or breaking it by trituration, add the water, bring the whole to a boil and boil for 5 minutes, stirring constantly. The boiling may be omitted, the fruit being crushed and stirred into the solution of sugar in water.

This will suffice for most fruit, pineapple being an exception. The latter is to be pared, washed and grated, mixed with syrup, and brought to a boil—not boiled.

One of the following formulas may also be employed:

Raspberry or Strawberry: Take a quantity of thoroughly ripe fruit; rub or press the fruit to a pulp through a hair sieve into an earthen or stoneware pan; add 4 av. ounces of sugar for each pound of fruit, mix thoroughly, put into bottles, heat, bring to boiling, and boil for a few minutes.

Peach: Select ripe, freestone peaches, wash and slice them up, skin and all; add a little water; place on the fire, and stir constantly until reduced to a pulp; rub and press this through a coarse hair-sieve into an earthen or stoneware pan, and add 4 av. ounces of sugar for each pound of fruit, and complete as in the foregoing.

Pineapple is to be prepared by peeling and grating, adding sugar and heating as before.

The following formula has also been recommended:

Select sound fruit, remove calyces (if strawberries), and wash on a strainer; when water has drained off, pulp the fruit, add an equal amount of crushed loaf sugar, and preserve by adding to each pound of mixture ½ fluidounce of solution of salicylic acid. Pineapples are to be pared and grated, and do not require washing as above. To this mixture must be added syrup before using.

Some of the fruits may be prepared similar to the following:

Cranberries .....pints 2
Water .....pints 2½
Sugar .....av.lb. 2
Solution of citric acid .....fl.oz. ½
Soda foam .....about fl.oz. 1

Wash the fruit, place in a pan or kettle, add the water, apply heat, allow to boil for 5 minutes, stirring frequently; add the sugar, dissolve, add the solution and soda foam, and finally enough solution of salicylic acid to preserve.

Gentian, Elixir of.

Extract of gentian	gr. 70
Aromatic spirit	fl.dr. 3
Vanilla extract	fl.dr. 2
Simple syrup, U.S.P.	fl.oz. 1
Aromatic (simple) elixir, enough to make	fl.oz. 16

Dissolve the extract of gentian in about 2 fluidounces of elixir, then add the syrup, vanilla extract, aromatic spirit, and the remainder of the elixir, and filter.

Lime Juice.

This may be prepared from limes by expression, leaving the juice to stand for about 24 hours to allow the albumen to separate, and filtering. To avoid fermentation during this standing, some alcohol or solution of salicylic acid should be added to the juice.

Artificial lime juice may be prepared as follows:

Citric acid	gr. 250
Or	
Solution of citric acid	fl.dr. 9
Distilled water, enough to make	fl.oz. 8
Oil of limes	drops 3

Mix and filter if necessary. The oil of limes may be replaced by oil of lemon dissolved in alcohol or lemon essence.

Malt Wine. (Malt Cordial.)

Quinine sulphate	gr. 10
Cinchonidine sulphate	gr. 20
Aromatic spirit	fl.dr. 4
Alcohol, deodorized	fl.oz. 2
Water	fl.oz. 6
Sherry or sweet catawba wine	fl.oz. 12
Malt extract...enough to make	fl.oz. 32

Mix all but the malt extract, dissolve the alkaloidal salts by agitation, filter and add the extract.

This preparation may also be prepared by mixing 2½ fluidounces of tincture of cinchona with 3 fluidounces of diluted alcohol, and then adding the aromatic spirit, wine and malt extract as above, or by mixing 8 fluidounces of compound elixir of quinine with 6 fluidounces of malt extract and 2 fluidounces of sherry wine.

Quinine, Compound, Elixir of

See "Calisaya Phosphate," Chapter X.

Solution of Citric Acid. (Fruit Acid.)

I.

Citric acid	av.oz. 8
Water enough to make	fl.oz. 16

Dissolve and filter.

II.

Citric acid	av.oz. 8
Alcohol	fl.oz. 2
Water enough to make	fl.oz. 16

Dissolve and filter.

This solution must be made only in small amounts, as it is extremely liable to spoil. When made with alcohol, it keeps better than without it.

Various preparations are sold as substitutes for this solution, under names like phosphocitric and citro-chloric acids. These are either diluted mineral acids, usually hydrochloric acid, or mixtures of this with citric or tartaric acids. Sometimes solution of tartaric acid is used instead of citric acid.

Solution of Salicylic Acid. (Liquid Preservative.—Fruit Juice Preservative.)

This may be prepared in the proportion of ¼ to ½ av. ounce of salicylic acid to 1 pint of alcohol. It is used for preservative purposes. As a rule it is not advisable to add it to any dietetic substance, because of its injurious action upon the system. It should never be used unless absolutely necessary; crushed fruit, for example, will not keep unless a preservative be added to it.

W. P. De Forest, Brooklyn, N. Y., prefers a solution of benzoic acid as a preservative, because it is efficacious and is less detrimental to the system than other preservative agents.

Tincture of Orris, Stronger.

This is prepared by extracting 12 av. ounces of powdered orris root with deodorized alcohol so as to obtain 16 fluidounces of product.

Tincture of Orris, Weaker.

This is prepared by extracting 1 av. ounce of powdered orris root with deodorized alcohol so as to obtain 12 fluidounces of product.

Fruit Vinegars.

Various fruit vinegars—raspberry, strawberry, pineapple and other vinegars—may be prepared and served at the "soda" counter, and may also be sold as pleasant condiments for culinary or table purposes. These may be prepared with a good quality of wine or cider vinegar, but better and cheaper than either one is diluted acetic acid made from acetic acid, which is now obtainable in a state of almost absolute purity.

Formulas for raspberry vinegar are given in the next article; other fruit vinegars may be made in a similar manner.

Vinegar, Raspberry.

This is served "solid" like the "phosphates," by drawing an 8-ounce glass seven-eighths full of carbonated water, adding 1 fluidounce of the vinegar, and stirring with a spoon.

I.

Acetic acid, pure	fl.dr. 4
Raspberry syrup (from fruit or juice)	fl.oz. 8
Syrup	enough to make fl.oz. 16

Color, if desired, by adding tincture of cudbear or black raspberry juice, or the syrup above may be made partially from black raspberries or the juice of these.

II.

Raspberry juice	fl.oz. 8
Sugar	av.oz. 4½
Acetic acid, pure	fl.oz. ½
Syrup	enough to make fl.oz. 16

Or mix 10 fluidounces concentrated fruit syrup with acid and enough syrup to make 1 pint as above.

Color, if desired, like the preceding.

III.

Raspberry juice	fl.oz. 5
Water	fl.oz. 5
Wine or cider vinegar, or pure diluted acetic acid	fl.oz. 11
Syrup	enough to make fl.oz. 32

Color, if desired, like the preceding.

IV.

Raspberries, washed	av.oz. 8
Sugar	av.oz. 16
Wine or cider vinegar, or pure diluted acetic acid	fl.oz. 24

Rub the berries down with the sugar, add the vinegar or acid, macerate for 24 hours, agitating occasionally, strain through flannel, and filter if necessary.

Color, if desired, like the preceding.

V.

It is sometimes prepared without sugar or syrup, as by mixing 12 fluidounces of raspberry juice with 8 fluidounces of wine or cider vinegar, or pure diluted acetic acid.

In serving this some raspberry syrup must be added to the beverage.

The formulas with sugar or syrup are to be preferred for "soda" purposes.

VI.

Raspberry juice	fl.oz. 4
White wine	fl.oz. 4
Acetic acid, U.S.P.	fl.dr. 6
Caramel red	fl.dr. 2
Syrup	enough to make fl.oz. 32

See formula for caramel red under "Calisaya Syrup," Chapter XVII.

—W. M. Benton, Peoria, Ill.

Vinegar, Vanilla.

Vanilla, cut fine	av.oz. ¼
Cloves, powder	gr. 50
Cinnamon, powder	gr. 50
Sugar, granulated	av.oz. 1
Alcohol	fl.oz. 2
Wine or cider vinegar, or pure diluted acetic acid	fl.oz. 18

Triturate the vanilla with the sugar until reduced to quite a fine condition, add the cloves, cinnamon and alcohol, macerate for several days, agitating frequently, add the vinegar or acid, macerate again, strain and filter. It is usually colored red.

CHAPTER XIX.

HOT SODA.

"Hot soda" drinks actually differ considerably from "cold soda," although to the public they appear of very similar character. The latter is made from cold, carbonated water; the former from hot, plain (uncharged) water.

The Apparatus.

The hot water for "hot soda" may be obtained by having a hot water pipe leading through the draught arm of the cold soda apparatus, but this is unsatisfactory, and the usual and better method is to have a regular heating apparatus, with a boiler attachment connected with the water pipe. These hot soda apparatuses are furnished in a variety of styles, many of them highly ornamental, as well as very practical and convenient. They are made in copper, silver and tile. The interior is now generally so constructed that there is but little escape of steam, little or no danger of explosion, always sufficient pressure behind from the supply pipe, so that the water flows out readily and is always hot. In purchasing an apparatus, care must be taken that these requirements are present.

Hot soda apparatuses were formerly made so that the water was heated directly, which gave rise to considerable danger of explosions. They are now generally made on the water-bath plan, the water used for the beverage not being heated directly, the heat being applied by a small gas burner (Bunsen) to the outer vessel, in which is placed an inner vessel. The outer vessel is partially filled with water, and as the latter becomes heated it warms the water of the interior vessel. The water of the latter is never heated to boiling —but is always quite hot—so that no steam is formed in the inner vessel, and there is no danger of explosion. This inner vessel may be a cylinder or a coil of piping connecting at one end with the open water main, so that there will always be pressure, and at the other end with the draught arm. Excessive escape of steam into the air is avoided by leading a pipe from the outer chamber to near the bottom of the sink.

The amount of water in the outer chamber is indicated by a water gauge; the water in this vessel should not be allowed to run out, as the bottom will be ruined in the course of time, the soldering may be weakened and the apparatus might collapse. In fact, the outer vessel should be filled about three times daily, because, if allowed to run too low and then refilled, the water in the inner vessel will become chilled, and will require heating for some time before it is again warm enough. The supply of water in the inner vessel keeps itself up, for as water is drawn off from the draught arm, more water enters the cylinder or piping from the water main. The pressure of the water supply upon the water in the cylinder may be too great; if so, the faucet of the water main may be partially closed.

Mugs and Spoons.

Mugs or cups for hot soda are made of china and silver. The former is of several qualities, but only the nicest and daintiest kind of china mugs should be used. Better than china cups are silver-plated mugs, which always look well and never break. These are provided with non-conducting handles, and are very elegant.

These mugs vary somewhat in capacity, say from 8 to 12 fluidounces. The former may be used where 5 cents is the ruling price for the drinks, and the latter where the price is 10 cents.

The spoons should be of nice silver plate or solid silver. Those used for ice-cream soda answer very well.

The Flavors.

The line of flavors acceptably served for hot soda is quite small, the following embracing the usual ones: Lemonade, lemon, coffee, tea, chocolate, egg drinks, beef tea and clam juice. The fruit syrups, acid drinks and vanilla are not usually considered compatible with hot water, although there is no manifest objection to serving them when called for.

Syrups for hot soda must, as a rule, be of stronger flavor than those intended for cold soda, and must also be less sweet, and therefore cold soda purposes are usually not adapted for hot soda use. Sometimes the flavors are served in the form of extracts, coffee, for example, which are introduced into the mug, hot water then put in, and lastly sugar added, as the customer may desire. The sugar used should be cut loaf, served in fancy bowls with silver tongs.

It is sometimes recommended to keep the hot soda flavors warm by placing them on the apparatus. This is not advisable, because the preparations are then more liable to ferment or mold; they may lose in flavor, and the drink when served will certainly be too hot. It is preferable to keep the preparations where they will be simply at the ordinary room temperature.

Even if the syrups and other flavoring preparations be kept as directed, the beverages, as served, may be too hot. Too great heat of the water may be avoided by lowering the gas burner, or lowering the flame to the point experience and trial will determine. The beverage should, however, never be lukewarm; between the two evils of an over-hot and a lukewarm hot soda, the former is certainly to be preferred.

The syrups, etc., for hot soda are usually kept in fancy bottles, with neat glass labels conspicuously displayed.

Serving "Hot Soda."

"Hot soda" is served by drawing 1 or 1½ fluidounces of the flavoring preparation (syrup, liquid beef extract, etc.) into the mug, adding cream and sugar if these be required, filling the cup with hot water and serving with a spoon. The amount of flavor stated is intended for an 8-ounce mug; for larger mugs, correspondingly larger amounts of the flavor will be required. As a rule, the hot soda beverages are topped off with whipped cream or with a spice. It is also now quite customary to give with hot drinks two or three thin slender crackers on a small, dainty, china tray; soda crackers are served with such drinks as beef tea, sweet crackers with chocolate, coffee, etc. Sometimes other fancy crackers or cakes are used.

The cream in hot drinks is often now replaced by ice cream particularly where ice cream soda is served all winter.

Hot Ambrosia.

Ambrosia syrup .....fl.oz. 1 or 1½
Hot water, enough to fill an 8-ounce mug

Hot Beef Tea. (Beef Bouillon.)

This may be prepared by using about ½ to 1 teaspoonful of beef extract to an 8-ounce mug of hot water, and serving to the customer with spoon, salt, pepper and celery salt cellars (to permit him to season to suit himself), and soda crackers.

Instead of solid extract, Liquid Extract of Beef may be used. This may be purchased already prepared, or it may be made as follows:

I.

Extract of beef.....av.oz. 3
Salt .....gr. 60
Water, boiling.....fl.oz. 15

This may be dispensed in the proportion of 1 to 1½ fluidounces to an 8-ounce mug of hot water, with pepper or pepper essence, or if a celery flavor is desired, with celery essence or celery salt.

II.

Beef extract.....av.oz. 3 or 4
Starch.....av.oz. 1½
Salt .....av.oz. 1½
Water.....sufficient

Boil the starch with one pint of water until the former is thoroughly cooked, dissolve the extract and salt in about 12 fluidounces of hot water, mix the two liquids, and add enough water to make 32 fluidounces.

Serve like the preceding. Instead of using pepper or celery for flavoring, use a few drops of flavoring essence prepared from essence of summer savory to which has been added a small amount of tincture of capsicum.

III.

The following liquid extract of beef has been sold under the name of Ox Celery:

Arrowroot or corn starch	av.oz. ½
Extract of beef	av.oz. 4
Salt	av.oz. ½ to 1
Celery essence	fl.dr. 4
Savory essence	fl.dr. 4
Water, hot	enough to make pints 2

Tincture of capsicum and black pepper essence may be added.

This is to be prepared like the preceding, and served like other liquid beef extracts, omitting the flavoring.

IV.

Maggi's bouillon	oz. 3
Water, hot	fl.oz. 6
Tincture of celery	fl.dr. 2

Use one teaspoonful to a cup of hot water; season with salt and pepper.

"Tincture of celery" for the above is to be prepared from 60 grains of celery seed, freshly powdered, percolated with enough alcohol to make 1 fluidounce.

—Wm. P. De Forest, Brooklyn, N. Y.

Instead of using the flavorings mentioned above for beef tea, the following Beef Tea Flavor may be employed:

Black pepper	gr. 240
Pimento	gr. 90
Cumin	gr. 60
Coriander	gr. 30
Cinnamon	gr. 15
Cardamom	gr. 15
Salt	av.oz. 1
Water, Alcohol	of each, sufficient

Half an av. ounce of celery may be added to the above.

Mix the solids, reduce to fine powder, and extract by percolation with a mixture of 1 volume of water and 3 of alcohol, so as to obtain 16 fluidounces of product.

The following may be used as a flavor for beef tea under the name Compound Salt Powder:

Mustard, powder	gr. 60
Celery, freshly powdered	av.oz. ½
Black pepper, freshly powdered	av.oz. 1
Salt	av.oz. 12

Mix well.

Hot Birch Tea.

Birch syrup	fl.oz. 1
Hot water	enough to fill an 8-ounce mug

Make the syrup for this drink of stronger flavor than for cold "soda."

Bouillon, Strong.

Extract of beef	av.lb. 1
Salt	av.oz. 6½
Worcestershire sauce	fl.dr. 2
Caramel	dr. 2
Decoction	enough to make fl.oz. 32

Mix, dissolve and filter or strain.

The decoction for the above is to be prepared from 1 onion and ½ av. ounce each of whole black pepper and curry powder, using enough water to make sufficient decoction for the above.

Use 1 teaspoonful to a cup of hot water.

—W. M. Benton, Peoria, Ill.

Hot Boviline.

This is served similarly to hot beef tea, using the extract known as boviline.

Hot Calisaya Tonic.

Fluid extract of cinchona	fl.dr. 1
Lemon syrup	fl.oz. ½ or 1
Lemon juice	fl.dr. 1
Hot water	fl.oz. 7

Hot Checkerberry.

Draw ½ fluidounce of wintergreen syrup and 1 fluidounce of red orange syrup into an 8-ounce mug, and fill the latter with hot water. Top with whipped cream.

It may also be served by using 1 fluidounce of wintergreen syrup and omitting the orange, but the first is to be preferred.

The two syrups may be kept mixed ready for dispensing.

Hot Cherry Blaze.

Cherry syrup	fl.oz. 1 or 1½
Lemon juice	fl.dr. 1
Hot water	enough to fill an 8-ounce mug

Sprinkling on the beverage a few drops of alcohol and igniting the latter will make it a real "blaze."

Sometimes wild cherry syrup is used for the above, but it is not to be preferred.

Hot Cherry Phosphate.

Prepare a syrup as follows:

Cherry juice	fl.oz.	12
Sugar	av.lb.	1½
Water	fl.oz.	6

Dissolve the sugar in the juice and water.

In serving, put 1½ fluidounces of the above into an 8-ounce mug, add 1 fluidram of solution of acid phosphates, and fill the mug with hot water.

The acid phosphate may be kept mixed with the syrup if desired.

Hot Chocolate. (Hot Cream Chocolate.)

Chocolate syrup to be used for this may be prepared according to the following formulas:

I.

Chocolate	av.oz.	8
Sugar, granulated	av.oz.	4
Water, boiling	fl.oz.	28
Syrup, U.S.P.	enough to make gal.	½

Select a rich brand of chocolate. Grate or scrape fine and triturate with the sugar; then in a large warm mortar form a paste by trituration, gradually adding 18 fluidounces of boiling water; transfer to a porcelain or porcelain-lined vessel, heat slowly, stirring well; gradually add the remainder of the water, bring to a boil, and boil for 5 or 6 minutes, stirring constantly; stir for some time after removing from the fire, then bring to a boil again, and boil for 1 minute. By this means separation of cacao butter is prevented, and the mixture does not require straining, but simply skimming. Finally add the syrup. The mixture may be flavored with vanilla extract. Other flavors may be employed as suggested under "Chocolate Syrup," Chapter VIII.

Care must be exercised to make a smooth paste in the beginning, and to avoid scorching at the last. A quantity of the chocolate may be grated or scraped, and kept on hand mixed with the proper amount of sugar.

In serving use about 1 or 1½ fluidounces of the syrup for an 8-ounce mug, add about a fluidounce of cream, fill the mug with hot water, top with whipped cream, and serve with a spoon and crackers.

II.

Baker's or other good soluble cocoa	av.oz.	3½
Water	pints	2
Sugar, granulated	av.oz.	40
Vanilla extract	fl.dr.	4

Heat the water to boiling, stir in the cocoa, gradually added; add the sugar; when latter is dissolved, strain and add the extract.

Serve like the preceding.

III.

Chocolate, powdered	av.oz.	4
Starch	av.oz.	½
Water	pints	2½
Sugar	av.lb.	2½
Vanilla extract	fl.dr.	2

Mix the chocolate and starch by trituration, mix intimately with 8 fluidounces of water, pour on the remainder of the water in a boiling condition, stir well, and heat to boiling until the starch is cooked, stirring constantly; add the sugar, stir until dissolved, and add the vanilla extract.

Serve like the preceding.

IV.

Formula No. V. for "Chocolate Syrup," Chapter VIII., may be employed for "hot soda" purposes. It is to be served like the preceding, omitting the cream.

V.

Hot chocolate is frequently served by using 1½ to 2 teaspoonfuls of powdered chocolate to an 8-ounce mug, adding 2 to 3 teaspoonfuls of sugar, stirring together thoroughly, and allowing the hot water to flow into the cup moderately rapidly, during which time the mixture is stirred; when the cup is seven-eighths full a fluidounce of cream should be added—also a few drops of vanilla extract are advisable—and the whole topped with whipped cream.

The cocoa and sugar may be kept mixed, ready for use

Instead of powdered cocoa, chocolate paste or extract may be used in the above.

VI.

Baker's chocolate	av.oz.	8
Sugar	av.oz.	12
Water, boiling	fl.oz.	14
Syrup	fl.oz.	42
Vanilla extract	fl.dr.	2

Melt the chocolate in a tin or iron saucepan over a low fire, being careful not to scorch it, and add the sugar, mixing thoroughly, and continuing the heat; add the boiling water gradually, and bring the whole just to the boiling point. Remove the vessel, to the liquid add the syrup and extract, and strain through a sieve.

If strict attention is paid to the above directions there will be no separation on the syrup, even after prolonged standing.

The product is a most delightful syrup; it may be served with cream.

—Wm. P. De Forest, Brooklyn, N. Y.

VII.

Dutch cocoa, powder.....av.lb. 3
Water.....gal. ½
Cream.....pints 2
Tincture of vanilla, U.S.P.....fl.oz. 5
Salt.....teaspoonful 1
Simple syrup....enough to make gal. 1

—Auditorium Pharmacy, Chicago, Ill.

Hot Clam Juice. (Clam Bouillon.—Clam Broth.)

Clam juice may be served in the proportion of ½ to 1 fluidounce to an 8-ounce mug, filling the latter with hot water, and serving with a spoon, also giving the patron the celery salt (Chap. XVIII.), salt and pepper cellars, that he may season to suit himself, and some soda crackers.

Clam juice is served more acceptably by adding a fluidounce of milk to the juice; better yet by using half water and half milk, and best yet by using all milk (hot). A small quantity of butter causes a marked improvement.

Clam juice, like beef tea, must always be served quite hot. It spoils very readily, and must be preserved carefully, on ice if possible.

If a distinction is desired between Clam Bouillon and Clam Broth the latter may be served with a spoonful of butter, and the former without it. Or hot clam juice may be clam juice with water, clam bouillon the same with a dash of lemon juice added, and clam broth, clam juice mixed with milk or cream (and water).

What is known as Clam Night Cap is clam juice with hot water and seasoning.

Hot Clam Juice and Lemon. (Hot Clam Juice Cocktail.)

Clam juice.....fl.oz. ½ or 1
Lemon juice.....fl.dr. 1 or 2
Hot water.enough to fill an 8-ounce mug

Serve with salt and pepper, and soda crackers.

Hot Claret.

Claret syrup.....fl.oz. 1 or 1½
Hot water.enough to fill an 8-ounce mug

Hot Claret Phosphate.

Prepare like the preceding, but adding 1 fluidram of solution of acid phosphates.

Hot Cocoa.

If a distinction is made between "hot chocolate" and "hot cocoa," powdered cocoa mixed with sugar and hot water may be dispensed for the latter, and chocolate syrup with hot water for the former.

Hot Coffee.

Prepare syrups according to the following formulas:

I.

Coffee, best Mocha and Java mixed, moderately fine powder.....av.oz. 5
Glycerin.....fl.oz. 4
Sugar.....av.lb. 2¼
Water.....sufficient

Mix the glycerin with 28 fluidounces of water, moisten the coffee with this mixture, let stand for ½ hour, pack firmly in a percolator (not tin), pour on the remainder of the liquid, previously heated to boiling, and when this liquid has disappeared from the surface of the coffee, add boiling hot water until 40 fluidounces of percolate are obtained; to the latter add the sugar, and dissolve by agitation.

Serve by drawing 2 fluidounces to an 8-ounce mug, add 1 fluidounce of cream, fill with hot water, top with whipped cream, and serve with a spoon and sweet crackers.

II.

Coffee, any good kind in any desired mixture.....av.oz. 32
Sugar.....av.lb. 3½ or 4
Water.....enough to make fl.oz. 64

Moisten the ground coffee thoroughly, let stand in a covered vessel until softened, pack

in a percolator, cover the drug with a heavy filter turned up at the edge, and upon the whole pour boiling hot water. Allow the percolate to flow into a funnel or percolator containing the sugar, and continue adding the boiling water until 4 pints of syrup are obtained, taking care that all the sugar is dissolved. If the process is conducted in the manner described the odor of coffee will scarcely be observed in the room.

Serve like the preceding.

III.

Coffee, freshly roasted and ground.....av.oz. 16
Sugar.....av.oz. 48
Brandy, best French.....fl.oz. 2
Water, boiling.....sufficient

Moisten the coffee with some hot water mixed with the brandy, pack in a percolator, pour on boiling hot water until 32 fluidounces of percolate are obtained, and in this dissolve the sugar by agitation.

About the best mixture of coffee to use is 1 part of Java with 2 of Mocha.

Serve like the preceding.

IV.

Hot coffee may also be served by using extract and sugar, mixing them as required. For extract of coffee, use the formula mentioned in Chapter VI., or the following:

Java coffee, moderately fine....av.oz. 5
Mocha coffee, moderately fine..av.oz. 5
Water, hot....enough to make fl.oz. 30
Brandy, best French.....fl.oz. 1

Moisten the coffee with the water, pack into a percolator, pour on the remainder of the coffee and add the brandy.

In serving, use about 1 fluidounce of this extract for an 8-ounce mug, add sufficient sugar and about 1 fluidounce of cream, fill with hot water, top with whipped cream, and serve with spoon and sweet crackers.

Hot coffee served by using extract may be called "hot coffee boushea."

V.

Coffee, Mocha and Java, finely ground.....av.lb. 1
Sugar.....av.oz. 44
Vanilla extract.....fl.dr. 2
Water, boiling.....sufficient

Pack the coffee in a percolator and pour boiling water upon it until 2 pints of liquid are obtained. In the latter dissolve the sugar and add the extract.

This makes, when served with cream, either whipped or plain, a most pleasant cup or glass of coffee.

—Wm. P. De Forest, Brooklyn, N. Y.

Hot Coffee, French.

This is served like No. IV. in preceding, omitting the cream.

Hot Cream Boviline.

This is served like hot beef tea, or boviline, adding 2 fluidounces of cream.

Hot Currant.

Red currant syrup.....fl.oz. 1 or 1½
Hot water, enough to fill an 8-ounce mug

One fluidram of "acid phosphate" or lemon juice may be added if desired.

Hot Ginger. (Ginger Tea.—Hot Ginger-ade.)

For ginger syrup for "hot soda" purposes, flavor "soda" syrup with ginger essence (Chap. VI.), or use a syrup of ginger, similar to the U. S. P. syrup, prepared as follows:

Fluid extract of ginger.....fl.oz. 1¼
Calcium phosphate, precipitated, av.oz. ½
Sugar.....av.oz. 20
Water.....fl.oz. 20

Triturate the extract with the calcium phosphate, expose in a warm place until the alcohol has evaporated, triturate with the water, macerate for several hours, stirring occasionally, filter, and in the filtrate dissolve the sugar by agitation.

In serving, use 1 to 1½ fluidounces of syrup to an 8-ounce mug, fill with hot water and serve with a spoon. Some add about ½ fluidounce of cream. What is served as Hot Ginger Puff or Ginger Fizz is the same as this with the addition of 1 fluidounce of cream.

If the above is not strong enough in ginger to suit some patrons, some tincture or essence of ginger may be added.

Hot Ginger Ale.

Prepare a syrup as follows:

Ginger ale extract.....fl.dr. 4
Solution of citric acid.....fl.dr. 2
Syrup, "soda," enough to make fl.oz. 16

The acid solution may be omitted.

Serve like hot ginger.

Hot Ginger Clam Broth.

Jamaica ginger, powder...teaspoonful 1
Cream.....fl.oz. 1
Clam juice.....fl.oz. 1
Butter.....teaspoonful 1
Hot water, enough to fill an 8-ounce mug

Season with celery salt.

Hot Ginger Wine.

Ginger wine.....fl.oz. 1
Sugar.....teaspoonfuls 2
Hot water.....fl.oz. 7

Hot Grape.

Grape syrup.....fl.oz. 1
Lemon juice.....fl.dr. ½ to 1
Hot water, enough to fill an 8-ounce glass

Hot Lactart.

Lactart.....fl.dr. 1 or 1½
Lemon or plain syrup.....fl.oz. 1
Hot water, enough to fill an 8-ounce mug

Hot Lemon.

Prepare a syrup according to the following formulas:

I.

Lemon essence.....fl.dr. 4
Solution of citric acid.....fl.oz. 1
Syrup, "soda"..enough to make fl.oz. 32

In serving, draw 2 to 2½ fluidounces to an 8-ounce mug, fill with hot water and serve with a spoon.

II.

Lemons..... 3
Solution of citric acid.....fl.dr. 4
Sugar, granulated.....sufficient
Syrup.....enough to make fl.oz. 32

Grate the peel from the lemons, triturate this with half its weight of granulated sugar, express the lemons, add the syrup to the mixed juice and peel, let stand for several hours in a covered glass or porcelain vessel, strain and add the acid solution.

Serve like the preceding.

III.

Lemon essence.....fl.oz. 1
Orange essence or compound spirit of orange.....fl.dr. 2
Nutmeg essence.....drops 15
Lime juice.....fl.dr. 4
Solution of citric acid.....fl.dr. 4
Syrup, "soda"..enough to make fl.oz. 32

Serve like the preceding.

IV.

Lemon..... 1
Alcohol.....fl.oz. 1
Solution of citric acid.....fl.dr. 2
Sugar.....av.oz. 20
Water.....fl.oz. 20
White of 1 egg.

Grate the peel of the lemon, macerate with the alcohol for a day, express, also express the lemon, mix the two, add the sugar and water, dissolve by agitation, and add the solution of citric acid and the egg-white, the latter first beaten to a froth.

Serve like the preceding.

V.

Lemon syrup (for "cold soda")..fl.oz. 1
Lemon juice.....about fl.dr. 2
Hot water, enough to fill an 8-ounce mug

Or instead of lemon juice, use 1 fluidram of lime juice and a dash of "acid phosphate."

Hot Lemonade.

Hot lemon may be served, but better express the juice of half a lemon, add sugar to suit, and fill the mug with hot water.

Hot Lemon Phosphate.

Lemon syrup (for "hot soda")..fl.oz. 1
Solution of acid phosphates.....fl.dr. 1
Hot water..enough to fill an 8-ounce mug

Hot Lime Juice.

Lime juice.....fl.oz. ½
Lemon or ginger syrup.....fl.oz. 1
Hot water..enough to fill an 8-ounce glass

Lime juice with lemon or plain syrup or with sugar and hot water may be dispensed as Hot Limeade.

Hot Malted Milk.

Malted milk.....tablespoonfuls 2
Hot water..enough to fill an 8-ounce mug

While adding the water, stir the mixture with a spoon so as to make a smooth mixture.

Season with salt and pepper, or with celery salt, and serve with soda crackers.

Some dispensers add about a couple of teaspoonfuls of cream to the above, but this is not necessary.

See also "Malted Milk Syrup," Chapter VIII., which may be served as hot "soda," using 2 fluidounces to a cup of hot water.

Hot Malted Milk Coffee.

Malted milk.....teaspoonfuls 2
Coffee syrup.....fl.oz. 1
Hot water.....fl.oz. 7

Prepare like the preceding.

Mock Turtle Broth.

Liebig's beef extract.....av.oz. 1
Armour's "Vigoral".....av.oz. 1
Barley, oatmeal, or starch....av.oz. ½
Gelatin.....av.oz. ¼
Tincture of bitter orange peel..fl.dr. 3
Tincture of capsicum.....drops 18
Lime juice.....fl.dr. 3
Worcestershire sauce.....fl.dr. 3
Salt.....av.oz ¾
Water, hot....enough to make fl.oz. 16

Make a thin paste from the starch or other material; swell the gelatin in cold water; dissolve the beef extract in hot water with the salt; add to the hot mixture the starch paste and softened gelatin and bring all to a boil; strain through a wire strainer; add the flavorings and hot water to finish.

Use 1½ ounces of this broth to an 8-ounce mug.

Hot Orange.

Orange syrup.....fl.oz. 1½
Hot water..enough to fill an 8-ounce mug

Make the syrup for this drink of stronger flavor than for cold "soda."

Hot Orange Phosphate.

Orange syrup.....fl.oz. 1
Solution of acid phosphates.....fl.dr. 1
Hot water..enough to fill an 8-ounce mug

It is prepared more acceptably by mixing the juice of half an orange with "acid phosphate," sugar, and hot water.

Hot Oyster Juice.

Take 1 fluidounce of fresh juice or liquid from oysters, add a tablespoonful of cream, fill the 8-ounce mug with hot water, add a small piece of butter, and season with pepper and salt. Serve with soda crackers.

Hot Pineapple.

Pineapple syrup.....fl.oz. 1 or 1½
Hot water, enough to fill an 8-ounce mug

The syrup for this drink must be made of stronger flavor than for cold 'soda."

Hot Raspberry.

Prepare a syrup as follows:

Raspberry juice.....fl.oz. 6
Syrup, "soda," enough to make fl.oz. 32

To serve, put 1½ fluidounces in an 8-ounce mug, and fill the latter with hot water.

Hot Raspberry Vinegar.

Raspberry vinegar.....fl.oz. ½
Raspberry syrup.....fl.oz. ½
Hot water.....fl.oz. 7

Hot Tea.

The only correct way to serve hot tea is to make it as wanted, using one of the small china tea-pots with a strainer in it. Several varieties of tea may be kept on hand to suit different customers. The customer should be allowed to pour out the infused tea into the mug, and to add the cream and sugar.

Hot Tom.

Prepare a syrup by mixing 3 fluidounces of hot tom essence (Chap. VI.) with 4 fluidrams of solution of citric acid and enough syrup or lemon syrup to make 16 fluidounces, and color with caramel.

Serve by using 1 to 1½ fluidounces to an 8-ounce mug and filling the latter with hot water.

Hot Day.

What is known by this name is prepared similar to the above. The gentian in the extract is reduced to one-third, and the ginger to the proportion of the gentian; the syrup is prepared with lemon syrup without further addition of solution of citric acid.

Hot Tomato Bouillon.

Beef extract.....teaspoonful ½ to 1
Or
Liquid beef extract.....about fl.oz. 1
Tomato catsup.....about fl.oz. ½
Hot water, enough to fill an 8-ounce mug
Season to taste.

Hot Zozia.

Zozia syrup.....fl.oz. 1
Lemon syrup.....fl.oz. ½
Cream.....fl.dr. 1
Hot water, enough to fill an 8-ounce mug

Hot Egg Bouillon. (Hot Egg Beef.)

Liquid extract of beef.....fl.oz. ½ to 1
Egg..... 1
Salt and pepper.....to season
Hot water, enough to fill an 8-ounce mug

Stir the extract, egg and seasoning together with a spoon until well mixed, add the water, stirring briskly meanwhile, then strain, and serve. Or shake the egg and extract in a shaker, add the water, and mix by pouring back and forth several times from shaker to mug.

Hot Egg Checkerberry.

Prepare like egg chocolate, substituting wintergreen syrup, or a mixture of wintergreen and orange syrups for the chocolate syrup.

Hot Egg Cherry Blaze.

Prepare like hot egg chocolate, substituting a mixture of cherry syrup and lemon juice for the chocolate syrup See "Hot Cherry Blaze."

Hot Egg Chocolate.

Chocolate syrup.....fl.oz. 1 or 1½
Egg..... 1
Cream .....fl.oz. ½
Hot water.enough to fill an 8-ounce glass

Mix the syrup, egg and cream together in an egg-shaker, shake as in making cold egg drinks, add the hot water, and mix all by pouring back and forth several times from shaker to mug. Or prepare by beating the egg with a spoon, add the syrup and cream, mix all quickly with the spoon, add the hot water, stirring constantly meanwhile, and strain.

Hot Egg Claret.

Prepare like hot egg chocolate, substituting claret syrup for the chocolate syrup.

Hot Egg Coffee.

Prepare like the preceding, substituting coffee syrup for the chocolate syrup.

Hot Egg Currant.

Prepare like hot egg chocolate, substituting currant syrup for the chocolate syrup.

Hot Egg Ginger.

Prepare like hot egg chocolate, substituting ginger syrup for the chocolate syrup.

Hot Egg Grape.

Prepare like hot egg chocolate, substituting grape syrup for the chocolate syrup.

Hot Egg Lemon.

Prepare like egg chocolate, substituting lemon syrup for the chocolate syrup, adding a small amount of lemon or lime juice, and omitting the cream and whipped cream.

Hot Egg Lemonade.

Juice of ½ lemon,
Egg..... 1
Sugar.....teaspoonfuls 2
Hot water.enough to fill an 8-ounce glass

Prepare like hot egg chocolate.

Hot Egg Lime Juice.

Egg..... 1
Lime juice.....fl.oz. ½
Lemon syrup.....fl.oz. 1
Hot water.enough to fill an 8-ounce glass

Prepare like hot egg chocolate.

Hot Egg Milk.

Sugar.....teaspoonfuls 2
Cream .....fl.oz. 1
Egg..... 1
Hot milk.enough to fill an 8-ounce mug

Prepare like the preceding, top with whipped cream, and sprinkle with nutmeg. If there is no facility for keeping hot milk use about 2 fluidounces of cream, and fill the mug with hot water.

Hot Egg Orange.

Prepare like hot egg chocolate, substituting orange syrup for the chocolate syrup.

Hot Egg Phosphate.

I.

Lemon syrup.....fl.oz. 1 or 1½
Solution of acid phosphates.....fl.dr. 1
Egg..... 1
Hot water.enough to fill an 8-ounce mug

Prepare like egg chocolate.

II.

Lemon syrup.....fl.oz. 2
Egg..... 1
Solution of acid phosphates.....fl.dr. ½

Mix in a glass and shake together thoroughly; pour into another glass, previously heated, and draw full of hot water slowly; season with nutmeg.—C. J. Rosenbaum & Co., Louisville, Ky.

Hot Egg Pineapple.

Prepare like hot egg chocolate, substituting pineapple syrup for the chocolate syrup.

After-the-Ball.

Kola-coca syrup.....fl.oz. 1
Yolk of 1 egg,
Angostura bitters.....fl.dr. 1
Hot water, enough to fill an 8-ounce mug

Prepare like hot egg chocolate.

Sherbet Blue Blaze.

Juice of 1 lemon,
Sherbet syrup.....fl.oz. 1½

Mix these in an 8-ounce mug, draw 6 fluidounces of hot water into another mug, pour on the latter a small amount of alcohol, ignite the latter, and mix this liquid with the liquid in the other mug by pouring back and forth from one mug to the other a few times.

Silver Puff or Fizz.

White of 1 egg,
Juice of 1 lemon,
Sugar.....teaspoonfuls 3
Hot water, enough to fill an 8-ounce mug

Prepare like hot egg chocolate.

Hot Soda Toddy.

Lemon juice.....fl.dr. 2
Lemon syrup.....fl.oz. 1
Aromatic bitters.....fl.dr. 1
Hot water, enough to fill an 8-ounce glass

Sprinkle with nutmeg or cinnamon.

Turkish Tea.

Tea syrup.....fl.oz. 1
Red orange syrup.....fl.oz. ½
Cream.....fl.dr. 2
Hot water, enough to fill an 8-ounce mug

CHAPTER XX.

LIQUEURS, CORDIALS, BITTERS, ETC.

Of the beverages enumerated in this chapter, the liqueurs or cordials, brandies, crêmes and ratafias are used both abroad and here, but more particularly in Europe—France and Germany especially. The "bitters" are used largely in this country, but many of the proprietary bitters are more of the nature of liqueurs.

The liqueurs, brandies and crêmes are made by distillation of flavor-yielding solids, wormwood, cloves, cinnamon, peppermint, etc., with alcohol and water, or by solution of the respective essential oils in alcohol and water, subsequently adding sugar. Inasmuch as the distillation method is adapted only to the large manufacturer, no formulas are given requiring distillation. The solution method will give excellent results if prime materials are employed.

These beverages contain usually four kinds of ingredients, viz.:

1. Alcohol.
2. Water.
3. Aromatic or bitter substances.
4. Sugar.

The proportion of each ingredient varies according to the kind of drink and according to its quality. The "bitters" may not contain any aromatic, but only bitter, substances, quassia, gentian, etc.; they are usually without sugar.

The flavored brandies contain the greater proportion of alcohol, and but very little sugar, the stronger brandies having more flavor and alcohol than the weaker ones.

The differences between these beverages are not well defined, but the distinctions given here will be found to hold true in most instances:

LIQUEURS OR CORDIALS.—These contain 40 to 50 per cent of alcohol (52 to 64 fluidounces to the gallon) and 20 to 25 per cent of sugar (25 to 32 av. ounces to the gallon).

DOUBLE BRANDIES (Doppelte Branntweine).—These contain a somewhat larger proportion of flavoring ingredients, about 55 per cent of alcohol, and about 12 per cent of sugar. When the flavoring ingredients are reduced about one-half, the alcohol to about 40 per cent, and the sugar to 4 or 5 per cent, the product becomes what is known simply as "brandy" or a "simple or single brandy" ("einfacher branntwein").

All of the liqueurs or cordials mentioned in this work may be converted into double brandies by increasing the flavoring ingredients 25 per cent, the alcohol to 68 fluidounces and reducing the sugar to 1 av. pound to the gallon. By using one-half the flavor of the double brandy, 6 av. ounces of sugar and 3 pints of alcohol to the gallon, a single-strength brandy is obtained.

AQUAVITS.—These are the same as double brandies.

CREMES.—These differ from liqueurs or cordials only in containing a larger proportion of sugar, about 4 pounds to the gallon. All of the liqueurs may be converted into crêmes by increasing the sugar to 60 or 64 av. ounces.

RATAFIAS.—These are properly beverages made from fruits by maceration, not by distillation. Some so-called ratafias are similar to crêmes, and occasionally they are like cordials.

BITTERS.—These are made by extracting bitter and aromatic—or bitter only—drugs with a mixture of alcohol and water; sometimes a small amount of sugar or syrup is added.

The quality of these beverages may vary in at least two ways, viz.:

1. According to the proportion of the ingredients.

2. According to the quality of the ingredients.

The formulas given in this chapter are all intended for the production of beverages of the best quality. If cheaper or inferior preparations are wanted, the proportion of flavoring ingredients, alcohol and sugar may be decreased, thereby increasing the water.

It is also necessary, in manufacturing superior beverages, to use only the very best of materials, essential oils of unquestioned quality and fresh, alcohol free from fusel oil—deodorized alcohol—distilled water, and white sugar free from bluing. (See Chap. III.). If rum, arrac, etc., are specified in a formula, only the true and the best should be used.

In preparing these beverages, except such as are prepared by percolation without addition of sugar, the oils and other flavoring substances should be dissolved in the alcohol, the sugar in the water, the two solutions then mixed and filtered clear. The sugar solution may be added to the other liquid either cold or hot; many direct the use of hot solution, claiming that this blends the flavors better and renders subsequent clarification by filtration more easy.

These mixtures are usually clarified or "fined" with considerable difficulty, the finely divided particles of oil readily passing through the pores of the filter. An excellent clarifying medium is purified talcum, which should be agitated with the liquid and the latter then passed through a well-wetted filter. If the filtrate is not perfectly bright, it should be returned again and again to the filter. Purified talcum is chemically inert, and is therefore superior to magnesium carbonate and other substances which are recommended for "fining" purposes. The following is highly recommended as a

A CLARIFYING POWDER

for clarifying muddy tinctures, alcoholic drinks, etc.:

Egg albumen, dried	av.oz. 2
Sugar of milk	av.oz. 2
Starch	av.oz. 1

Mix and reduce to an impalpable powder. Use about 1 av. ounce of the powder to each gallon of the liquid to be clarified. Let stand in a warm room for a few days, agitating occasionally. Finally, filter through paper.

After filtering the liquids, put them into suitable bottles, which should be filled; cork tightly, seal, wrap in paper, and store away, laying them on their sides, in a moderately warm place, as near the ceiling. Warmth and age improve the beverages, as they appear to blend the flavors; the older the beverage the better it is. These beverages should never be put into a cold place, as the volatile oils might be separated.

Abricots, Eau de. (Apricot Liqueur.)

Light white wine	fl.oz. 44
Apricots, cut in slices	7
Cinnamon, Ceylon, coarse powder	av.oz. ¾
Sugar	av.oz. 26
Alcohol, deodorized	fl.oz. 36
Water, distilled	fl.oz. 36

Mix the wine, fruit, and cinnamon with the alcohol and 18 fluidounces of water, macerate for 7 days, agitating occasionally, express, add the sugar dissolved in the remainder of the water, and filter clear.

Absinthe. (Wormwood Cordial.)

Oil of wormwood	drops 64
Oil of star anise	drops 48
Oil of aniseed	drops 32
Oil of coriander	drops 32
Oil of fennel, pure	drops 32
Oil of angelica root	drops 16
Oil of thyme	drops 16
Alcohol, deodorized	fl.oz. 108
Water, distilled	fl.oz. 20

Dissolve the oils in the alcohol, add the water, color green, and filter clear.

Absinthe, Swiss.

Oil of wormwood	drops 24
Oil of orange peel	drops 10
Oil of star anise	drops 8
Oil of neroli petale	drops 3
Oil of lemon, fresh	drops 6
Acetic ether	drops 16
Sugar	av.oz. 20
Alcohol, deodorized	fl.oz. 60
Water, distilled	fl.oz. 52

Dissolve the oils and ether in the alcohol, the sugar in the water, mix, and filter clear.

Absinthe, Creme de.

Oil of wormwood, French	drops 16
Oil of bitter almonds	drops 2
Oil of anise, true	drop 1
Spirit of nitrous ether	fl.dr. 2
Coumarin sugar (1:1000)	gr. 30
Sugar	av.oz. 2½
Alcohol, deodorized	fl.oz. 56
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol, the sugars in the water, mix the two solutions, color green, and filter clear.

Absynthe Citronee, Eau de.

Oil of lemon, pure and fresh	drops 48
Oil of wormwood, pure	drops 32
Oil of peppermint	drops 24
Oil of anise	drops 8
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color green (see Chap. IV.), and filter clear.

Alkermes Liqueur.

Mace	av.oz. 1½
Ceylon cinnamon	av.oz. 1⅛
Cloves	av.oz. ¾
Rose water	fl.oz. 6
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Reduce the first three ingredients to coarse powder, macerate with the alcohol for several days, agitating occasionally, add the remaining ingredients, and filter clear.

Almond Creme.

Oil of bitter almond	drops 16
Sugar	av.oz. 56
Alcohol, deodorized	fl oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water; mix the two solutions, and filter clear.

Almond Ratafia.

This is made similarly to the preceding, the oil being increased to 24 drops, the alcohol to ½ gallon, and the sugar reduced to 2 av. pounds.

Amazon Bitters.

An Amazon Bitters Extract may be prepared as follows:

Sweet orange peel	av.oz. 3
Red cinchona	av.oz. 2
Yellow cinchona	av.oz. 2
Red saunders	av.oz. 1
Calamus	av.oz. ¼
Cassia buds	gr. 60
Cinnamon bark	gr. 60
Cloves	gr. 60
Nutmeg	gr. 60
Alcohol, Water, of each enough to make	fl.oz. 16

Mix the solids, reduce to fine powder, and extract by slow percolation with a mixture of 3 volumes of alcohol and 1 of water.

To prepare the bitters, mix 1 fluidounce of this extract with 5 fluidounces of alcohol and 10 of water, or it may be made weaker if desired. Amazon Wine-Bitters may be prepared by mixing the same amount of extract with 1 pint of sweet catawba or sherry wine.

For "soda" purposes it may be desirable to use, instead of Amazon bitters, a more agreeable Amazon Flavor, which may be prepared as follows:

Amazon bitters extract	fl.oz. 13
Rose essence	fl.oz. 2
Vanilla extract	fl.oz. 1

Americain, Eau.

Oil of mace, essential	drops 3
Oil of cloves, pure	drops 3
Oil of cinnamon, true	drops 3
Oil of rosemary, pure	drops 6
Oil of lavender flowers	drops 6
Oil of neroli petale	drops 9
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, color a rose tint, and filter clear.

Amis, Eau des.

Oil of bergamot, pure	drops 15
Oil of lemon, pure and fresh	drops 12
Sugar	av.oz. 22
Raisins	av.oz. 2
Figs	av.oz. 1
Alcohol, deodorized	fl.oz. 52
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol; boil the sugar and fruit with ½ gallon of water, strain, add the previous liquid and enough water to make 1 gallon, and filter clear. Color with caramel.

Amour, Eau de.

Oil of bitter almond.....drops	9
Oil of lemon, pure and fresh...drops	6
Oil of lavender flowers.....drops	6
Oil of mace, essential.....drops	3
Oil of cinnamon, true.....drops	3
Ambergris, gray.....gr.	1
Sugar.....av.oz.	28
Alcohol, deodorized.....fl.oz.	56
Water, distilled.enough to make gal.	1

Triturate the ambergris with a small amount of sugar to fine powder, dissolve the oils in the alcohol, and the remainder of the sugar in the water, mix all three, macerate for 7 days, agitating occasionally, and filter clear. It should be colored a rose tint; sometimes some leaves of gold and silver are added to the finished liquid.

Ananas, Creme de. (Pineapple Crême.)

Pineapples, fresh, sliced fine..av.oz.	12
Tincture or extract of vanilla....fl.dr	½
Alcohol, deodorized.....fl.oz.	52
Sugar.....av.oz.	72
Water.....fl.oz.	28

Mix the pineapples and alcohol, macerate for 15 days, agitating occasionally, express and strain, dissolve the sugar in the water, mix the two liquids, add the extract, filter clear and color yellowish.

Inferior grades of this beverage are made by using pineapple essence—see Chapter VI. —instead of fruit.

Angel Elixir.

Oil of cassia buds.....drops	75
Oil of cloves, pure.....drops	25
Oil of mace.....drops	25
Oil of ginger.....drops	25
Oil of lemon.....drops	25
Oil of cardamom.....drops	25
Oil of galanga.....drops	2
Spirit or essence of rose, an amount equal to.....½ drop of oil	
Sugar.....av.oz.	28
Alcohol, deodorized.....fl.oz.	50
Water, distilled.enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter clear.

Angelica Ratafia.

I.

Angelica seed.....gr.	510
Angelica root.....gr.	165
Bitter almond.....gr.	165
Sugar.....av.lb.	2
Alcohol, deodorized.....fl.oz.	56
Water, distilled.enough to make gal.	1

Bruise the first three ingredients, macerate with the alcohol for 7 days, agitating occasionally, add the sugar dissolved in the water, and filter clear.

II.

Oil of angelica root.....drops	25
Oil of cassia buds.....drops	8
Oil of lemon, pure and fresh...drops	8
Oil of rose.....drop	1
Sugar.....av.lb	2
Alcohol, deodorized.....fl.oz.	56
Water, distilled.enough to make gal.	1

Prepare like the preceding.

Angostura Bitters.

Very many formulas have been given for this preparation.

I.

Angostura bark.....av.oz.	1½
Chamomile, German.....av.oz.	¼
Orange peel, bitter.....av.oz.	¼
Cardamom seed.....gr.	30
Cinnamon.....gr.	30
Cochineal or red saunders.....gr.	15
Raisins.....av.oz.	4
Diluted alcohol.....pints	5

Reduce the first five ingredients to coarse powder, add the raisins (bruised) and the diluted alcohol, macerate for a month, express and filter.

II.

Angostura bark.....av.oz.	2
German chamomile.....av.oz.	2
Wild cherry bark.....av.oz.	2
Orange peel, bitter.....av.oz.	1½
Lemon peel.....av.oz.	1
Cochineal.....av.oz.	1
Mace.....av.oz.	1
Cinnamon bark.....av.oz.	½
Nutmeg.....av.oz.	½
Cardamom seed.....av.oz.	½
Coriander seed.....av.oz.	¼
Raisins, cut very fine.....av.oz.	12
Sugar.....av.oz.	12
Glycerin.....fl.oz.	6
Diluted alcohol.....pints	2
St. Croix or New England rum.pints	5½

Grind the aromatics to moderately fine powder, place the raisins in a suitable vessel, and add thereto the glycerin, diluted alcohol and rum; let the compound macerate for 2 weeks, observing to shake the container well every day; then filter, adding rum enough to make 1 gallon; add the sugar and tone the color of the finished product with caramel if too bright a red, or add a little cochineal coloring if not bright enough.

III.

Angostura	av.oz.	4
Orange peel, bitter	av.oz.	8
Anise	av.oz.	1¼
Cascarilla	av.oz.	1
Cinnamom	av.oz.	1
Cardamon	av.oz.	½
Cloves	av.oz.	½
Nutmeg	av.oz.	½
Coriander	av.oz.	½
Glycerin	fl.oz.	4
Diluted alcohol...enough to make gal.		½

Mix the solids, reduce to coarse powder, and extract with the diluted alcohol and glycerin by means of percolation.

IV.

Angostura bark	av.oz.	2
Cinchona bark	av.oz.	1
Orange peel, bitter	av.oz.	1
Cassia buds	av.oz.	½
Cinnamon, cassia	av.oz.	½
Cardamom	av oz.	½
Sandal wood	av.oz.	½
Galangal	gr.	60
Cloves	gr.	20
Coumarin	gr.	1
Simple syrup	pint	1
Jamaica rum	pints	8
Diluted alcohol	pints	4

Reduce the solids to powder, extract with the rum and alcohol, to the syrup add the syrup, and then enough diluted alcohol to make 1 gallon.

V.

Calisaya bark	av.oz.	2
Tonka	av.oz.	1½
Red saunders	av.oz.	1½
Bitter orange peel	av.oz.	½
Cardamom	av.oz.	½
Ceylon cinnamon	av.oz.	½
Galangal	av.oz.	¼
Gentian	av.oz.	¼
Zedoary	av.oz.	¼
Angelica root	gr.	30
Cloves	gr.	30
Ginger	gr.	30
Alcohol	fl.oz.	80
Water	fl.oz.	32
Caramel	av.oz.	4
Malaga wine	fl.oz.	12

Reduce the solids to coarse powder, extract by 14 days' maceration or by percolation with the mixture of alcohol and water, and to the liquid add the caramel and wine.

VI.

The following has been claimed to be the original recipe:

Angostura bark	av.oz.	1
Calisaya	av.oz.	½
Red saunders	av.oz.	½
Orange peel, fresh	gr.	160
Alkanet	gr.	160
Licorice root	gr.	100
Dandelion	gr.	100
Pimento	gr.	100
Turmeric	gr.	80
Cardamom	gr.	60
Canada snake root	gr.	50
Serpentaria	gr.	50
Gentian	gr.	40
Orange berries	gr.	40
Tolu balsam	gr.	40
Rhubarb	gr.	20
Galangal	gr.	20
Nutmeg	gr.	20
Coriander	gr.	20
Catechu	gr.	20
Caraway	gr.	15
Cinnamon bark	gr.	15
Mace	gr.	10
Cloves	gr.	8
Alcohol	gal.	1
Honey	av.oz.	10

Reduce the solids to coarse powder, macerate with the alcohol for 14 days, agitating once or twice daily, draw off about one-half the liquid, to the residue add the honey, macerate for three days more, strain, mix the two liquids, and filter.

VII. An Angostura Bitters Extract, or Angostura Extract, may be prepared from any of the above formulas by increasing the amount of drug or flavor and decreasing the vehicle (alcohol or diluted alcohol). When the bitters is to be prepared this extract may be mixed with the proper proportion of diluent. Angostura Wine-Bitters may be prepared by mixing this extract with sweet catawba or sherry wine.

Aniseed Cordial or Liqueur. (Anise Cordial.)

I.

Anethol	fl.dr.	3½
Oil of fennel seed	m.	40
Oil of bitter almonds	drops	8
Alcohol, deodorized	pints	4
Simple syrup	pints	2½
Water, distilled, enough to make gal.		1

Mix the anethol, oils and alcohol, also the syrup and water, incorporate the two liquids and filter through purified talcum until clear.

II.

Oil of anise	drops 10
Oil of fennel	drops 5
Oil of cumin	drops 5
Oil of lemon	drops 5
Alcohol, deodorized	fl.oz. 60
Sugar	av.oz. 30
Water, distilled	fl.oz. 50

Dissolve the oils in the alcohol, the sugar in the water, mix and filter. It may be colored, if desired; it is usually left uncolored or colored yellow.

III.

Oil of anise	drops 30
Oil of star anise	drops 8
Alcohol, deodorized	fl.oz. 56
Sugar	av.oz. 24
Water, distilled	fl.oz. 60

Dissolve the oils in the alcohol, the sugar in the water, mix and filter clear.

IV.

Oil of anise	drops 15
Oil of caraway	drops 6
Oil of cassia	drops 6
Alcohol, deodorized	pints 3
Sugar	av.lb. 1½
Water, distilled	pints 3

Dissolve the oils in the alcohol, the sugar in the water, mix and filter clear.

V.

Anise, freshly bruised	av.oz. 2
Alcohol, deodorized	pints 2
Water, distilled	pints 4
Simple syrup	pints 2

Mix the anise with the alcohol and water, macerate for 48 hours, agitating occasionally, add the syrup and filter clear.

Anise Creme.

This may be prepared from any of the preceding by increasing the proportion of sugar so that it amounts to about 45 per cent, the water used being sufficient to make 1 gallon of mixture, or the following formula may be used:

Oil of anise	drops 25
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 52
Water, distilled	enough to make gal. 1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions and filter clear.

Anise Ratafia.

Aniseed, bruised	av.oz. 2
Star anise, bruised	av.oz. 1
Sugar	av.lb. 2
Alcohol, deodorized	fl.oz. 53
Water, distilled	enough to make gal. 1

Macerate the solids with the alcohol for 7 days, agitating occasionally, add the sugar dissolved in the water and filter clear.

The anise and star anise may be replaced by 32 drops of oil of anise.

Anisette. (Anisette Liqueur or Cordial.)

I.

Oil of anise	drops 32
Oil of bitter almonds	drops 8
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 52
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol and the sugar in the water, mix the two solutions and filter clear.

II.

Oil of star anise	drops 15
Oil of aniseed	drops 5
Oil of Ceylon cinnamon	drops 2
Oil of sassafras	drops 2
Alcohol, deodorized	fl.oz. 48
Sugar	av.oz. 60
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol and the sugar in the water, mix the two solutions and filter clear.

III.

Prepare an anisette essence as follows:

Oil of anise	fl.dr. 4
Oil of coriander	drops 4
Oil of cinnamon	drops 4
Oil of nutmeg	drops 2
Oil of neroli petale	drops 2
Alcohol, deodorized, enough to make	fl.oz. 1

To prepare the liqueur, use 1 fluidram of this with 52 fluidounces of deodorized alcohol and 64 of distilled water, add 1½ av. pounds of sugar, dissolve the latter by agitation, and filter clear if necessary.

Anisette (Holland).

Oil of star anise	drops 25
Oil of aniseed	drops 20
Oil of bitter almonds	drop ¾
Oil of fennel, sweet	drops 2
Oil of rose, pure	drops 2
Oil of angelica root	drops 2
Alcohol, deodorized	fl.oz. 48
Sugar	av.oz. 60
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, mix and filter. A grain of powdered coriander may be added before filtration.

Apricot Creme. (Crême d'Apricots.)

This may be prepared similarly to eau d'abricots, the apricots being increased to 10, the sugar doubled, and enough water used to make 1 gallon of mixture.

Apricot Ratafia.

This is almost like eau d'abricots; the sugar is to be increased to 2 av. pounds, enough water being used to make 1 gallon of mixture.

Argent, Eau de. (Silver-Water Liqueur.)

I.

Violet petals, fresh	gr. 36
Oil of lemon, pure and fresh	drops 15
Oil of angelica root	drops 6
Oil of cloves, pure	drops 3
Oil of star anise	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled..enough to make gal.	1

Mix the petals and oils with the alcohol, macerate for 2 days, agitating occasionally, dissolve the sugar in the water, mix the two solutions, color a rose tint, filter clear and add some leaves of silver.

II.

Oil of cedrat	drops 5
Oil of rose, pure	drops 2
Oil of angelica root	drops 2
Alcohol, deodorized	fl.oz. 48
Sugar	av.oz. 60
Water, distilled..enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the liquids, filter clear and add some leaves of silver to the filtrate.

Aromatic Bitters.

A concentrated preparation, or Aromatic Bitters Extract, may be made as follows:

Bitter orange peel	av.oz. 4
Calamus	av.oz. 1
Hops	av.oz. 1
Cardamom	av.oz. ¼
Cassia bark	av.oz. ¼
Coriander	gr. 60
Cloves	gr. 60
Mace	gr. 60
Cochineal	gr. 60
Alcohol, deodorized, Water, distilled, ...of each, enough to make	fl.oz. 16

Mix the solids, reduce to fine powder and extract by slow percolation with a mixture of 5 volumes of alcohol and 3 of water.

To prepare the bitters, mix 1 fluidounce of this extract with 18 fluidounces of water and 12 of alcohol. Aromatic Wine-Bitters may be prepared in the same manner, replacing the alcohol and water by sherry wine.

Benedictine.

This liqueur contains a large number of aromatic substances, all in very small amount, so that the flavor of no one is pronounced. To produce it the following essence may be employed:

Myrrh, contused	gr. 12
Malabar cardamom, deprived of shells, contused	gr. 12
Mace, bruised	gr. 12
Extract of aloes	gr. 48
Ginger, Jamaica, bruised	gr. 120
Galanga, bruised	gr. 120
Bitter orange peel, cut	gr. 120
Water, distilled	fl.oz. 2
Alcohol, deodorized	fl.oz. 5

Macerate for 7 days, agitating frequently, express and filter. Prepare also the following mixture:

Oil of rosemary, pure	drop 1
Juniper, pure and fresh	drop 1
Cardamom	drops 2
Hyssop	drops 3
Angelica root	drops 5
Sassafras	drops 6
Yarrow	drops 8
Bitter almonds	drops 10
Cascarilla	drops 12
Anise	drops 12
Ginger	drops 12
Galanga	drops 24
Wormwood, French	drops 30
Bitter orange, pure and fresh	drops 36
Lemon, pure and fresh	drops 36
Vanillin	gr. ½
Coumarin	gr. 1½
Ammonia water	drops 15
Acetic ether	fl.dr. 3
Spirit of nitrous ether	fl.oz. 5½
Extract of licorice, pure	av.oz. ½
Caramel	av.oz. ½
Water	fl.dr. 2
Alcohol	fl.dr. 2

Dissolve the caramel in the mixed alcohol and water, add the remaining ingredients of the mixture, incorporate the whole with the preceding filtrate, macerate the whole for 7 days, agitating occasionally, filter and wash

the filter with enough of a mixture of 3 volumes of deodorized alcohol and 1 of distilled water to make the filtrate measure 16 fluidounces. The latter separates on standing, and must be shaken before use.

To prepare the liqueur, use

Essence	fl.oz. 2¼
Alcohol, deodorized	fl.oz. 50
Sugar	av.oz. 52
Water, distilled..enough to make gal.	1

Dissolve the essence in the alcohol, the sugar in the water, mix the two solutions and filter clear.

To make a good liqueur, it is recommended to store the essence for at least 2 years, and the liqueur for not less than 1 year.

Berlin Bitters.

A concentrated preparation, or Berlin Bitters Extract, may be made as follows:

Cinchona	av.oz. 1
Bitter orange peel.	av.oz. 1
Calamus	av.oz. 1
Gentian	av.oz. 1
Columbo	av.oz. 1
Rhubarb	av.oz. ¼
Cinnamon bark	gr. 60
Cloves	gr. 30
Alcohol, Water, of each, enough to make	fl.oz. 16

Mix the solids, reduce to fine powder, and extract by slow percolation with a mixture of 3 volumes of alcohol and 1 of water.

To make the bitters, mix 1 fluidounce of this extract with 5 fluidounces of alcohol and 10 of water. To make Berlin Wine-Bitters, replace the alcohol and water with sweet catawba or sherry wine.

Bischof or Bishop Essence. (Essentia or Tinctura Episcopalis.)

I.

Bitter orange peel	av.oz. 3
Orange berries	av.oz. 1½
Cassia bark	gr. 64
Cloves	gr. 64
Oil of sweet or bitter orange	drops 40
Oil of lemon	drops 10
Alcohol, deodorized	fl.oz. 16
Water, distilled	fl.oz. 16

Reduce the solids to coarse powder, macerate with the alcohol and water for 8 days, then express. Or the solids may be extracted by percolation so as to obtain 32 fluidounces of product. In the liquid obtained, dissolve the two oils and filter clear if necessary.

Curacao orange peel should be preferred for the above.

Bischof or Bishop Liqueur may be prepared with this essence by adding 1 tablespoonful and about 2½ av. ounces of sugar (or 3 fluidounces of simple syrup) to a bottle of red wine.

The beverage Cardinal Liqueur may be prepared by adding 20 drops of this essence and about 1½ av. ounces of sugar (or 1¾ fluidounces of simple syrup) to a bottle of white wine.

II.

Sweet orange peel (best fresh and deprived of inner white layer)	av.oz. 3½
Orange berries	av.oz. 3½
Cloves	av.oz. ¼
Cassia bark	av.oz. ¼
Bitter almond water	fl.oz. 1
Distilled water	fl.oz. 7
Alcohol, deodorized	fl.oz. 25

Reduce the solids to coarse powder, add the remaining ingredients, macerate for several days, agitating occasionally, express and filter clear.

To prepare Bischof Liqueur, add about 20 drops of the above and 2 av. ounces of sugar to a pint of good wine.

Blackberry Cordial.

This beverage is usually misnamed "blackberry brandy" and sometimes "blackberry wine." The latter term should be applied only to a wine obtained by fermentation of the juice of blackberries. When this is distilled, a true blackberry brandy is obtained, just as ordinary brandy is obtained by distilling ordinary wines.

The name blackberry cordial is also frequently applied in pharmacy to a preparation containing blackberry root, often combined with other astringents such as nutgall.

True blackberry cordial is prepared according to a number of formulas which are given below. Most of them mention brandy. This should be a good, fusel-free article; it may be replaced by good whiskey, or even by diluted alcohol, according as a high-priced or cheap cordial is to be made.

I.

Blackberry juice, fresh	pints 2
Sugar	av.oz. 5
Water	fl.oz. 20
Brandy or whiskey, good	pints 5
Oil of cloves	drops 2
Oil of cinnamon	drops 2
Alcohol, deodorized	fl.dr. 4

Dissolve the sugar in the water and juice, and add the liquor; dissolve the oils in the alcohol, add one-half to the previous liquid, and if the latter is not sufficiently flavored, add more of the flavor. Finally, filter the mixture.

Other flavors are also used, such as vanilla extract, oils of orange, mace, nutmeg, etc. The brandy or whiskey may be replaced by diluted alcohol.

II.

Blackberry juice, fresh	pints 3
Cinnamon, freshly powdered	av.oz. 2
Cloves, freshly powdered	av.oz. ½
Nutmeg, freshly powdered	av.oz. ½
Diluted alcohol	pints 2
Simple syrup	pints 3

Mix the spices with the diluted alcohol, macerate for several days, agitating occasionally, add the other ingredients and filter.

The diluted alcohol may be increased or replaced by good brandy or whiskey, and the syrup may be decreased even down to 1 pint.

III.

Blackberry juice, fresh	pints 4
Nutmeg, freshly powdered	av.oz. 1
Cinnamon, freshly powdered	av.oz. 1
Pimento, freshly powdered	av.oz. ½
Cloves, freshly powdered	av.oz. ½
Brandy, good	pints 2½
Sugar	av.lb. 2½

Macerate the spices in the brandy for several days, dissolve the sugar in the juice, mix all and filter.

A portion of the juice may be replaced either by water, diluted alcohol, or brandy or whiskey.

IV.

Blackberries, fresh and sound	gal. 1
Pimento, freshly powdered	av.oz. 1
Cloves, freshly powdered	av.oz. ¾
Cinnamon, freshly powdered	av.oz. ½
Brandy, good	pint 1
Sugar	sufficient

Bruise the berries, add the spices, simmer gently until the fruit is cooked, strain through flannel with expression, for each pint of liquid add 4 to 6 or 8 av. ounces of sugar (according to sweetness desired), dissolve sugar, bring up to a quick boil, remove scum, allow to cool, add the brandy, let stand for about 24 hours and filter.

The brandy may be increased; it may be replaced by whiskey or diluted alcohol.

V.

Blackberry juice, fresh	pints 2
Blackberry essence	fl.oz. 1 to 4
Simple syrup	pints 2 or 3
Diluted alcohol, whiskey or brandy,	
	enough to make gal. 1

This may be flavored with spices mentioned in the preceding formulas; its color may be heightened by the addition of caramel.

VI.

It is quite probable that liquor dealers rarely or never use blackberry juice, but, instead, employ the German black cherry juice, which is the juice of the black cherry grown in Germany and to which about 15 per cent of alcohol has been added to preserve it. The following formula has been given:

Cherry juice	pints 5
Diluted alcohol	pints 1½
Simple syrup	fl.oz. 12
Water	fl.oz. 12
Blackberry root, cut	av.oz. 2
Peaches, dried	av.oz. 1

Mix, macerate for 7 days, agitating occasionally and filter. It is advisable to replace the blackberry root by the aromatics, cloves, nutmeg, pimento, etc. The dried peaches may, of course, be replaced by fresh peaches sliced.

Cheaper grades of this liquor may be prepared by using less of the juice and adding some blackberry essence or ether.

If the color of the mixture is not dark enough it may be tinctured with sufficient caramel.

The cherry juice is known to dealers as "blackberry stock."

Boker's Bitters.

A concentrated preparation, or Boker's Bitters Extract, may be made as follows:

Bitter orange peel	av.oz. 1½
Quassia	av.oz. 1
Calamus	av.oz. 1
Catechu	av.oz. ½
Cardamom	gr. 160
Alcohol,	
Water, of each, enough to make	fl.oz. 16

Mix the solids, reduce to fine powder, and extract by slow percolation with a mixture of 5 volumes of alcohol and 8 of water.

To prepare the bitters, mix 1 fluidounce of this extract with 18 fluidounces of water and 12 of alcohol.

Boonekamp's Bitters.

I.

Orange berries	av.oz.	5
Gentian	av.oz.	3
Bitter orange peel	av.oz.	1½
Cascarilla	av.oz.	1½
Cinnamon bark	av.oz.	1¼
Turmeric	av.oz.	¾
Cloves	av.oz.	¾
Rhubarb	gr.	160
Oil of anise	fl.dr.	1
Sugar	av.oz.	12
Alcohol	fl.oz.	45
Water	fl.oz.	82

Reduce the solids to coarse powder, mix all the ingredients, macerate for 7 days, agitating occasionally, express and filter.

II.

Bitter orange peel	av.oz.	2½
Cascarilla	av.oz.	2
Gentian	av.oz.	2
Rhubarb	av.oz.	1¼
Turmeric	av.oz.	1¼
Sugar	av.oz.	12
Diluted alcohol	fl.oz.	120

Mix the first five ingredients, reduce to powder, extract either by percolation or maceration with the diluted alcohol, and in the liquid obtained dissolve the sugar.

Cacao Liqueur. (Chocolate Liqueur.)

I.

Cacao beans, deprived of oil, powdered	av.oz.	10
Tea leaves, powder	gr.	90
Alcohol, deodorized	fl.oz.	40
Water, distilled	fl.oz.	30
Diluted alcohol	fl.oz.	3
Simple syrup	fl.oz.	60

Macerate the cacao and tea with the alcohol and water for 7 days, agitating occasionally, filter, through the filter add the diluted alcohol, flavor the liquid with about equal parts of cinnamon and vanilla extracts, add the syrup, and color with caramel.

II.

Cocoa, powder	av.oz.	4
Cinnamon, Ceylon	av.oz.	1
Cassia buds	av.oz.	1
Cardamom	gr.	90
Cloves	gr.	90
Milk	fl.oz.	6
Alcohol, deodorized	fl.oz.	42
Water, distilled, Sugar	of each,	sufficient

Mix the cocoa with 2 av. ounces of sugar and the milk, set aside for 24 hours, then add the cinnamon, cassia buds, cloves and cardamom, freshly reduced to coarse powder, macerate for 24 hours, agitating occasionally, express, to the liquid add 14 to 24 av. ounces of sugar dissolved in 36 to 42 fluidounces of water, and filter the whole.

III.

Cocoa, powder	av.oz.	6
Cinnamon, Ceylon, freshly powdered	av.oz.	½
Vanilla, best, reduced as finely as possible	gr.	60
Water, distilled	fl.oz.	30
Alcohol, deodorized	fl.oz.	40
Simple syrup	fl.oz.	60

Mix the first five ingredients, macerate for 7 days, agitating occasionally, express, to the liquid add the syrup, and filter.

IV.

Cacao beans, powder	av.oz.	4
Cochineal, powder	gr.	30
Vanilla extract	fl.oz.	1
Arrac, true	fl.oz.	4
Sugar	av.oz.	40
Alcohol, deodorized	pints	4
Water, distilled	pints	2

Mix the cacao and cochineal with the alcohol, macerate in a warm place for 7 days, agitating frequently, add a warm solution of the sugar in the water, also incorporate the arrac and extract, set aside for several days in a cool place, and filter.

Calamus Liqueur.

Oil of calamus	drops	33
Sugar	av.lb.	1
Alcohol, deodorized	fl.oz.	52
Water, distilled enough to make	gal.	1

Dissolve the oil in the alcohol, the sugar in the water, color with caramel, and filter clear.

One-third of the calamus oil may be replaced by oil of angelica root.

Calamus Liqueur, Breslau.

Oil of calamus	drops 30
Oil of aniseed	drops 6
Oil of star anise	drops 3
Sugar	av.oz. 24
Alcohol	fl.oz. 52
Water	enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, mix, color with caramel, and filter clear.

Calamus Liqueur, Magdeburg.

Oil of calamus	drops 30
Oil of lemon, pure and fresh	drops 6
Oil of angelica root	drops 3
Alcohol, deodorized	fl.oz. 52
Sugar	av.oz. 24
Water, distilled. enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, and filter clear.

Cardamom Creme.

Prepare like cardamom liqueur, but increasing the sugar to 56 av. ounces, and coloring the mixture light brown with caramel.

Cardamom Liqueur.

Oil of cardamom	drops 15
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled. enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix, and filter clear.

Carmelite Spirit. (Karmeliter Geist.)

Oil of bitter orange	drops 15
Oil of melissa, true	drops 6
Oil of coriander	drops 6
Oil of lemon, pure and fresh	drops 3
Oil of mace	drops 3
Sugar	av.oz. 12
Alcohol, deodorized	gal. ½
Water, distilled. enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two liquids, and filter clear.

Celeri, Creme de. (Celery Crême.)

Oil of celery, pure	drops 15
Alcohol, deodorized	fl.oz. 48
Sugar	av.oz. 60
Water, distilled. enough to make gal.	1

Dissolve the oil in the alcohol, sugar in the water, mix, and filter clear.

Cheaper grades may be made by reducing the oil, sugar and alcohol.

Cerises, Creme de. (Cherry Crême.)

I.

Cherry juice, recently expressed	fl.oz. 50
Alcohol, deodorized	fl.oz. 44
Oil of neroli petale	drops 8
Sugar	av.oz. 30
Water, distilled. enough to make gal.	1

Mix the juice, oil and alcohol, dissolve the sugar in the water, mix the whole, and filter clear.

II.

Cherry juice	pints 3
Oil of cloves	drops 3
Oil of cinnamon	drops 2
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 36
Water, distilled. enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, add the juice, and filter clear.

Chartreuse.

I.

Yellow:

Oil of angelica root	fl.dr. 3½
Oil of mace	drops 42
Oil of cajuput, pure	drops 32
Oil of hyssop	drops 32
Oil of melissa, true	drops 32
Oil of cloves, best	drops 20
Oil of coriander	drops 20
Oil of calamus	drops 10
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 72
Water	fl.oz. 40
Tincture of saffron	enough to color

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color with the tincture, and filter until clear, using purified talcum if necessary.

Green Chartreuse is prepared like the above, except that only 21 av. ounces of sugar are taken, and the mixture is made of a yellowish-green tint by adding solution of indigo-carmine.

White Chrtreuse is prepared without coloring, and the sugar is reduced to 14 av. ounces.

II.

Coriander	gr. 150
Peppermint	gr. 100
Anise or star anise	gr. 24
Angelica root	gr. 20
Alcohol, deodorized	fl.oz. 60
Water, distilled	fl.oz. 48
Sugar	av.lb. 3

Reduce the aromatics to coarse powder, macerate with the alcohol and 16 fluidounces

of water for 24 hours, shake frequently, express—or the solids may be extracted by percolation—dissolve the sugar in the remainder of the water, mix with the previous liquid, and filter clear.

III.

Oil of peppermint	drops 12
Oil of angelica root	drops 6
Oil of melissa, true	drops 3
Oil of hyssop	drops 3
Oil of Ceylon cinnamon	drops 3
Oil of mace	drops 3
Oil of sassafras	drops 3
Oil of sandal, pure	drops 3
Oil of lemon thyme	drops 3
Oil of thyme	drop 1
Alcohol, deodorized	pints 5

The amount of alcohol may be reduced if a stronger preparation is desired.

This essence may be used for making the liqueur. To make White Chartreuse mix 4 pints with a solution of 3 av. pounds of sugar in 2 pints of distilled water, and filter. Yellow Chartreuse is made in the same manner, simply adding sufficient tincture of saffron to color. Green Chartreuse may be made by using 5 pints of essence, 2½ av. pounds of sugar, and 1¾ pints of distilled water, and coloring with solution of indigo-carmine and tincture of saffron, or with tincture of grass.

IV.

Tansy	gr. 192
Melissa	gr. 24
Aniseed	gr. 24
Star anise	gr. 24
Angelica root	gr. 24
Lemon peel, fresh	gr. 12
Saffron	gr. 8
Alcohol, deodorized	fl.oz. 48
Water, distilled	fl.oz. 56
Sugar	av.lb. 3

Reduce the solids to coarse powder, macerate with the alcohol and 8 fluidounces of water for 24 hours, express, and strain (or extract by percolation), dissolve the sugar in the remainder of the water, mix the two liquids, and filter clear.

Cherry Brandy.

Cherry juice	pints 3
Simple syrup	pint 1
Diluted alcohol	pints 4
Oil of bitter almonds	drop 1

Cherry Liqueur or Cordial. (Kirsch Liqueur.)

I.

Vanilla extract	drops 10
Oil of bitter almonds	drops 10
Oil of cinnamon	drops 10
Oil of cloves	drops 3
Oil of nutmeg	drops 3
Alcohol	fl.oz. 40
Cherry juice	fl.oz. 40
Simple syrup	fl.oz. 48

Dissolve the oils in the alcohol, add the other ingredients, and filter clear.

This liqueur is best made in summer time when cherries are plentiful. Fresh fruit should be expressed to obtain the juice for the above liqueur.

II.

Oil of bitter almonds	drops 8
Oil of cinnamon	drop 1
Oil of cloves	drop 1
Acetic ether	drops 12
Œnanthic ether	drop 1
Vanilla extract, No. XV	fl.dr. 1½
Alcohol, deodorized	pints 3
Sugar	av.lb. 3
Cherry juice, fresh	fl.oz. 20
Water, distilled, enough to make gal.	1

Dissolve the oils, ethers, and extract in the alcohol, the sugar in some water, mix, add the juice, and filter clear. If the juice is not sufficiently sour, add a small amount of solution of citric or tartaric acid or phosphoric acid. To color, use caramel, or the juice of blackberry, raspberry, black cherry, or other highly-colored fruit.

III.

Cherry juice	fl.oz. 40
Oil of cloves	drops 3
Oil of cinnamon	drops 2
Oil of bitter almonds	drop 1
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 18 to 30
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, add the juice, and filter clear.

The oil of bitter almonds may be omitted and the other oils increased to 5 drops.

See also "Cerises, Crême de," and "Cherry Crême."

Cherry Ratafia.

This is made like Cherry Crême, the sugar being reduced to 44 av. ounces.

Chocolate Creme. (Crême de Cacao.)

I.

This may be prepared like cacao liqueur, the sugar to be increased to about 56 av. ounces to the gallon, or use the following formula:

Cacao, deprived of oil (good quality powdered "cocoa")..	av.oz. 2¼
Cassia bark	av.oz. ¾
Mace	gr. 16
Vanilla	gr. 16
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Reduce the cassia, mace and vanilla to coarse powder, mix with the powdered cacao, the alcohol, and 28 fluidounces of water, macerate for several days, agitating occasionally, strain, add the sugar dissolved in the remainder of the water, filter, and color dark brown with caramel.

II.

Cacao nuts, roasted, bruised..	av.oz. 10
Vanilla, cut small	gr. 140
Brandy	pints 4½
Simple syrup	pints 3½

Macerate the cacao and vanilla in the brandy for 7 days, strain, add the syrup, and filter if necessary.

Chocolate Ratafia.

Cacao, deprived of oil, (powdered "cocoa")	av.oz. 2½
Cassia bark	av.oz. 1
Mace	gr. 30
Vanilla	gr. 30
Cloves	gr. 30
Sugar	av.lb. 2
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Reduce the cassia, mace, vanilla, and cloves to coarse powder, mix these and cacao with the alcohol, macerate for 7 days, agitating occasionally, strain, add the sugar dissolved in the water, and filter.

Chypre, Eau de.

Oil of lemon, pure and fresh..	drops 9
Oil of bergamot	drops 6
Oil of cassia buds	drops 3
Oil of neroli petale	drops 3
Ambergris, gray	gr. 1
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, add the ambergris, macerate for 14 days, agitating occasionally, add the sugar dissolved in the water, mix the liquids, and filter clear.

Cinnamon Aquavit.

Oil of cassia buds	drops 32
Sugar	av.oz. 12
Alcohol, deodorized	gal. ½
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter the liquid until clear. Color the mixture brown.

Cinnamon Creme.

Oil of cassia buds	drops 35
Sugar	av.oz. 52
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color brown, and filter clear.

Cinnamon Liqueur or Cordial.

I.

Cassia bark	av.oz. 2
Cassia buds	av.oz. ¾
Alcohol, deodorized	fl.oz. 52
Sugar	av.oz. 28
Water, distilled, enough to make gal.	1

Reduce the bark and buds to coarse powder, macerate with the alcohol for 14 days, agitating occasionally, strain and express; dissolve the sugar in the water, mix the two liquids, color brown, and filter clear.

II.

Oil of cinnamon, true	drops 50
Oil of lemon, pure and fresh..	drops 10
Oil of orange, pure and fresh..	drops 10
Tincture of cardamom	fl.dr. 1½
Sugar	av.lb. 3
Alcohol, deodorized	pints 3
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix all and filter clear.

Cinnamon Ratafia.

Prepare like cinnamon crême, increasing the oil to 40 drops, the alcohol to ½ gallon, and reducing the sugar to 2 av. pounds.

Citronat Creme.

Oil of lemon, pure and fresh..	fl.dr. 1¼
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color yellowish, and filter clear.

Citronelle.

Lemon peel, fresh	av.oz.	2¼
Bitter orange peel, curacoa preferred	av.oz.	¾
Cloves	gr.	18
Nutmeg	gr.	18
Sugar	av.oz.	28
Alcohol, deodorized	fl.oz.	60
Water, distilled, enough to make gal.		1

Reduce the solids to coarse powder, macerate with the alcohol mixed with 16 fluid-ounces of water for 7 days, express, add the sugar dissolved in the remainder of the water, color the mixture yellowish (see Chap. IV.), and filter.

Claret Ratafia.

Oil of caraway	drops	24
Oil of anise	drops	8
Oil of fennel, sweet	drops	8
Oil of coriander	drops	8
Sugar	av.lb.	2
Alcohol, deodorized	gal.	½
Water, distilled, enough to make gal.		1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter clear.

Clove Liqueur or Cordial. (Balm of Molucca.)

I.

Oil of cloves	drops	30
Oil of cinnamon, true	drops	6
Oil of mace	drops	3
Sugar	av.oz.	24
Alcohol, deodorized	fl.oz.	50
Water, distilled, enough to make gal.		1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter clear; color with caramel.

II.

Cloves, bruised	gr.	160
Mace, bruised	gr.	40
Pimento, bruised	gr.	20
Sugar	av.lb.	2½
Water, distilled	fl.oz.	72
Alcohol, deodorized	fl.oz.	36

Macerate the first three ingredients with the alcohol and the same amount of water for 7 days, agitating occasionally, strain, dissolve the sugar in the remainder of the water, mix the two liquids, filter, and color with caramel.

Coffee Creme.

Coffee, freshly roasted and ground	av.oz.	5½
Oil of cloves	drops	3
Oil of cinnamon	drops	3
Oil of mace, essential	drops	3
Sugar	av.oz.	56
Alcohol, deodorized	pints	3
Water, distilled enough to make gal.		1

Macerate the coffee with the alcohol and oils for 7 days, agitating occasionally, strain, dissolve the sugar in the water, mix the liquids, and filter clear.

See also "Moka, Crême de."

Coffee Liqueur.

I.

Coffee, freshly roasted and ground, best quality	av,oz.	8
Cinnamon, Ceylon, freshly powdered	av.oz.	¾ to 1
Vanilla, best, coarse powder	gr.	50 to 90
Alcohol, deodorized	fl.oz.	60
Water, distilled	fl.oz.	50
Sugar	av.oz.	20

Mix the first five ingredients, macerate for several days, express, add the sugar, dissolve, and filter.

The flavor may be modified by increasing or decreasing the cinnamon and vanilla, but the flavor of the former should not be too pronounced. If the beverage is considered too strong more water may be added.

The beverage may also be prepared by macerating the solids with the alcohol, straining off the liquid, pouring on the dregs the water in a boiling condition, straining and expressing when cool; in the aqueous liquid dissolving the sugar, add to the alcoholic liquid, and filtering. For this the coffee may be reduced one-half, and the cinnamon omitted, and the sugar increased 4 to 6 ounces.

II.

Coffee, best, freshly roasted and ground	av.oz.	20
Diluted alcohol	fl.oz.	84

Mix, macerate for several days, agitating frequently, express, filter, and to 64 fluid-ounces of this liquid add

Diluted alcohol	fl.oz.	32
Simple syrup	fl.oz.	32
Vanilla extract	fl.oz.	1

Filter if necessary.

See also "Moka, Crême de."

Coffee Ratafia.

Coffee, freshly roasted and ground	av.oz.	11
Alcohol, deodorized	gal.	½
Sugar	av.lb.	2
Water, distilled. enough to make gal.		1

Macerate the coffee with the alcohol for 7 days, agitating occasionally, strain, dissolve the sugar in the water, mix the two liquids, and filter,

Columbat, Elixir.

Oil of juniper berries, pure and fresh	drops	12
Oil of lemon, pure and fresh	drops	9
Oil of angelica root	drops	6
Oil of cassia buds	drops	6
Sugar	av.oz.	24
Alcohol, deodorized	fl.oz.	56
Water, distilled. enough to make gal.		1

Dissolve the oils in the alcohol, the sugar in the water, mix the solutions, color a rose tint, and filter clear.

Cordiale, Eau.

Oil of lemon, pure and fresh	drops	15
Oil of fennel, sweet	drops	6
Oil of cardamom	drops	6
Oil of cloves	drops	3
Sugar	av.oz.	28
Alcohol, deodorized	fl.oz.	56
Water, distilled. enough to make gal.		1

Dissolve the oils in the alcohol, the sugar in the water, mix, and filter clear.

Curacoa Liqueur or Cordial.

I.

Curacao orange peel	av.oz.	6
Cinnamon, Ceylon	av.oz.	¾
Mace	gr.	150
Alcohol, deodorized	fl.oz.	56
Water, distilled. enough to make gal.		1
Sugar	av.oz.	12

Mix the first three ingredients, reduce to coarse powder, mix with the alcohol and 64 fluidounces of water, macerate for 7 days, agitating occasionally, express, add the sugar, enough water, if necessary, to make 1 gallon, dissolve the sugar by agitation, and filter.

II.

Curacao orange peel	av.oz.	3
Orange berries	av.oz.	¾
Oil of star anise	drops	3
Sugar	av.oz.	20
Alcohol, deodorized	fl.oz.	56
Water, distilled. enough to make gal.		1

Reduce the orange peel and berries to coarse powder, add the alcohol, macerate for 7 days, agitating occasionally, express, add the oil, sugar and water, agitate until the sugar is dissolved, and filter. Color deeper brown, if desired, with caramel.

III.

Bitter orange peel, curacao preferred	av.oz.	2½
Orange berries	av.oz.	3½
Orange flowers	av.oz.	1
Or		
Orange flower water	fl.oz.	2
Bitter almonds	gr.	300
Sugar	av.oz.	28
Alcohol, deodorized	fl.oz.	60
Water, distilled. enough to make gal.		1

Mix the solids, sugar excepted, reduce to coarse powder, add to the alcohol mixed with 16 fluidounces of water, macerate for 7 days, agitating occasionally, express, dissolve the sugar in the remainder of the water, mix all the liquids, and filter. Color pale brown with caramel.

IV.

Bitter orange peel, curacao preferred	av.oz.	2
Cloves	gr.	80
Cinnamon	gr.	80
Cochineal	gr.	60
Oil of orange, fresh	fl.dr.	1
Orange flower water, triple	fl.oz.	8
Holland gin	pint	1
Alcohol, deodorized	pints	2
Sugar	av.lb.	3
Water	enough to make gal.	1

Reduce the solids to coarse powder, add the alcohol, macerate for 2 days, agitating occasionally, then add the oil of orange, gin, and 3 pints of water, macerate for 7 days more, agitating occasionally, strain, add the sugar dissolved in the remainder of the water and orange flower water, and filter.

Damiana Bitters.

A concentrated preparation, or Damiana Bitters Extract, may be prepared as follows:

Damiana	av.oz.	1
Angostura	av.oz.	½
Bitter orange peel	av.oz.	½
Canada snake root	av.oz.	½
Lemon peel	av.oz.	¼
Cardamom	gr.	60
Cloves	gr.	60
Coriander	gr.	30
Alcohol, Water. of each, enough to make	fl.oz.	16

Reduce the solids to fine powder and extract by slow percolation with a mixture of 3 volumes of alcohol and 5 of water.

To make the bitters, mix 1 fluidounce of extract with 10 fluidounces of water and 5 of alcohol. Damiana Wine-Bitters may be prepared by substituting sweet catawba or sherry wine for the water and alcohol in this mixture.

Dauphin, Eau de.

Oil of juniper berries, pure and fresh	drops 15
Oil of coriander	drops 6
Oil of angelica root	drops 3
Oil of ginger	drops 3
Oil of star anise	drops 3
Sugar	av.oz. 22
Alcohol, deodorized	fl.oz. 50
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color yellowish (see Chap. IV.) and filter clear.

Didon, Eau de.

Oil of lemon, pure and fresh	drops 9
Oil of melissa, true	drops 6
Oil of cinnamon	drops 3
Oil of aniseed	drops 3
Oil of mace, essential	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color blue, and filter clear.

Fennel Aquavit.

Oil of fennel, sweet	drops 15
Oil of anise	drops 6
Oil of caraway	drops 3
Oil of coriander	drops 3
Sugar	av.oz. 12
Alcohol, deodorized	fl.oz. 60
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two liquids, and filter clear.

Framboises, Creme des. (Raspberry Crême.)

Raspberries, fresh and sound	av.oz. 24
Alcohol, deodorized	fl.oz. 60
Sugar	av.oz. 28
Water, distilled, enough to make gal.	1

Crush the berries, macerate with the alcohol and 8 fluidounces of distilled water for 14 days, express, wash the residue with some water, dissolve the sugar in the remainder of the water, mix all, and filter clear.

See also "Raspberry Liqueur" and "Raspberry Crême."

Genievre, Elixir de.

Juniper berries	av.oz. 5½
Alcohol, deodorized	fl.oz. 72
Sugar	av.oz. 28
Water, distilled, enough to make gal.	1

Reduce the juniper to coarse powder, macerate with the alcohol and 6 fluidounces of water for 7 days, agitating occasionally, express, strain, add the sugar dissolved in the remainder of the water, and filter clear.

Ginger Creme.

This may be prepared similarly to ginger liqueur, the ginger to be reduced to 2½ av. ounces and the sugar increased to 60 av. ounces.

Ginger Liqueur.

Jamaica ginger, coarse powder	av.oz. 3½
Alcohol, deodorized	fl.oz. 64
Sugar	av.oz. 24
Water, distilled, enough to make gal.	1

Mix the ginger, alcohol, and 12 fluidounces of water, macerate for 7 days, agitating occasionally, strain, add the sugar dissolved in the remainder of water, mix the whole, and filter clear.

The ginger root may be replaced by from 25 to 30 drops of ginger oil, the liqueur being colored slightly with infusion or tincture of saffron.

Gluehwein.

I.

White or red wine	fl.oz. 30
Sugar	av.oz. 5
Cassia bark	gr. 90
Cloves	gr. 24
Orange berries	gr. 10
Oil of lemon, pure and fresh	drops 5

Reduce the cassia, cloves, and orange berries to coarse powder, mix all, macerate for several days, agitating occasionally, and filter.

II.

Red wine	fl.oz. 30
Sugar	av.oz. 4
Cassia bark	av.oz. ½
Cloves	av.oz. ¼
Syrup of orange flowers	fl.oz. 1

Prepare like the preceding.

Gold Cordial.

Angelica root	av.oz.	4
Raisins	av.oz.	2
Figs	av.oz.	1
Licorice root	av.oz.	1
Coriander	av.oz.	½
Caraway	gr.	165
Cassia bark	gr.	165
Safflower	gr.	150
Cloves	gr.	60
Sugar	av.oz.	36
Alcohol, deodorized	pints	3
Water	pints	3

Cut the raisins and figs into small pieces, reduce the remaining solids, sugar excepted, to coarse powder, macerate all these with the alcohol mixed with an equal bulk of water, for 7 days, agitating occasionally, strain, and express, add the sugar dissolved in the remainder of the water, and filter clear.

Grog Extract.

Arrac, true, or Jamaica rum	fl.oz.	12
Alcohol, deodorized	fl.oz.	52
Sugar	av.oz.	36
Water, distilled, enough to make	gal.	1

Dissolve the sugar in the water, add the other ingredients, and strain or filter if necessary.

This mixture may be improved by increasing the rum or arrac to 20, 32 or even 48 fluid-ounces, and decreasing the alcohol so the amount of the two together is always the same; the sugar may be increased to 44, 60, or 72 av. ounces, the amount of water in each instance to be sufficient to make one gallon.

Hamburg Bitters.

Cinnamon	av.oz.	½
Cassia buds	av.oz.	½
Quassia	gr.	150
Gentian	gr.	150
Bitter orange peel	gr.	150
Agaric	gr.	100
Cardamom	gr.	50
Grains of paradise	gr.	30
Acetic ether	fl.dr.	2
Diluted alcohol	fl.oz.	132

Reduce the solids to coarse powder, add the remaining ingredients, macerate for 7 days, agitating occasionally, express and filter.

Hippocras.

Cinnamon	av.oz.	1¼
Canella	gr.	300
Cloves	gr.	100
Mace	gr.	100
Nutmeg	gr.	100
Ginger	gr.	100
Galangal	gr.	100
Cardamom	gr.	100
Sugar	av.oz.	6
Port wine	gal.	½
Sherry wine	gal.	½

Bruise the spices, macerate these and the sugar in the mixed wines for 7 days, agitating occasionally; strain, express and filter.

Hop Cordial.

The following is a palatable preparation not inferior to the so-called Hop Bitters:

Hops	av.oz.	1¼
Dandelion	av.oz.	1¼
Gentian	av.oz.	1¼
Chamomile	av.oz.	1¼
Orange peel, sweet	av.oz.	1¼
Alcohol, deodorized	fl.oz.	54
Water, distilled	fl.oz.	64
Simple syrup	fl.oz.	12

Reduce the solids to coarse powder, percolate with the mixture of alcohol and water, and to liquid obtained add the syrup.

Hygienic Liqueur.

Salicylic acid	gr.	60
Cassia bark, coarse powder	gr.	150
Galangal root, coarse powder	gr.	150
Oil of chamomile	drops	2
Oil of mace, essential	drops	2
Oil of cloves	drops	2
Oil of calamus	drops	2
Oil of angelica root	drops	2
Oil of Ceylon cinnamon	drops	4
Coumarin sugar	gr.	30
Extract of licorice	gr.	30
Tincture of capsicum	fl.dr.	½
Tincture of ginger	fl.dr.	½
Tincture of saffron	fl.dr.	½
Carmelite spirit	fl.dr.	2½
Spirit of nitrous ether	fl.dr.	2½
Swedish bitters (elixir of long life)	fl.dr.	5
Juniper juice	av.oz.	1¼
Alcohol, deodorized	fl.oz.	58
Sugar	av.oz.	45
Water	fl.oz.	52

Mix all except the sugar and water, add a hot solution of the sugar in the water, allow to cool and filter.

Juniper Creme.

Oil of juniper berries, pure and fresh	drops 64
Oil of cassia buds	drops 8
Sugar	av.lb. 3
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter clear.

Juniper Liqueur.

Oil of juniper berries, pure and fresh	drops 48
Sugar	av.oz. 22
Alcohol, deodorized	fl.oz. 56
Water, distilled..enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions and filter clear

Three drops of oil of coriander, or 3 drops each of cassia buds and pure sandalwood oil may be added to the above.

Juniper Ratafia.

This may be prepared like juniper crême by reducing the sugar to 2 av. pounds and increasing the alcohol to ½ gallon.

Kirschwasser. (Kirschgeist.)

I.

Alcohol, deodorized	fl.oz. 48
Water, distilled	fl.oz. 80
Orange flower water, imported	fl.oz. 1½
Essence de noyau	drops 6

For the latter use a 12 per cent alcoholic solution of oil of bitter almonds deprived of hydrocyanic acid.

II.

Oil of cloves	drop 1
Oil of lemon	drop 1
Oil of bitter almonds	drops 4
Acetic ether	drops 6
Coumarin sugar (1:1000)	gr. 12
Spirit of nitrous ether	fl.dr. 2
Sugar	av.oz. 2½
Alcohol, deodorized	fl.oz. 56
Water, distilled..enough to make gal.	1

Dissolve the oils, ether and spirit in the alcohol, the sugars in the water, mix the two solutions and filter clear.

Kola Liqueur.

Kola nuts, roasted, coarse powder	av.oz. 3½
Cochineal, fine powder	gr. 15
Vanilla extract	fl.dr. 1½
Arrac, true	fl.oz. 1½
Sugar	av.oz. 56
Alcohol	fl.oz. 48
Water	fl.oz. 48

Macerate the kola and cochineal with the alcohol for 7 days, agitating occasionally, strain, add the arrac, extract and sugar, the latter dissolved in the water, and filter clear.

Krambambuli Liqueur (Dantzic).

Oil of cloves, pure	drops 15
Oil of pimento	drops 9
Oil of cardamom	drops 9
Oil of mace, essential	drops 6
Oil of rose	drop 1
Sugar	av.oz. 24
Alcohol, deodorized	gal. ½
Water, distilled..enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color red with black cherry juice or other red color mentioned in Chapter IV., and filter clear.

Krambambuli Liqueur (Magdeburg).

Oil of lemon, pure and fresh	drops 9
Oil of lavender flowers	drops 6
Oil of melissa, true	drops 3
Oil of mace, essential	drops 3
Oil of wormwood, pure	drops 3
Oil of cubeb, pure	drops 3
Oil of sage	drops 3
Oil of sweet marjoram	drops 3
Oil of cardamom	drops 3
Sugar	av.oz. 24
Alcohol, deodorized	gal. ½
Water, distilled..enough to make gal.	1

Prepare like the preceding.

Kuemmel Aquavit.

Oil of caraway	drops 16
Alcohol, deodorized	pints 3
Sugar	av.oz. 10
Water, distilled..enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions and filter clear.

Kuemmel Creme. (Caraway Crême.)

Oil of caraway	drops 40
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 56
Water, distilled..enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two liquids and filter clear.

Kuemmel, Getreide.

Spirit of rose (from true oil of rose, 1:10)	drops 4
Oil of parsley seed	drops 2
Oil of aniseed	drops 2
Carvol	drops 15
Spirit of nitrous ether	fl.dr. 2
Sugar	av.oz. 10
Alcohol, deodorized	fl.oz. 56
Water, distilled..enough to make gal.	1

Dissolve the spirit, oils and carvol in the alcohol, the sugar in the water, mix the solutions and filter clear.

Kuemmel Liqueur. (Caraway Liqueur.)

I.

Oil of caraway	drops 20
Oil of peppermint	drops 2
Oil of lemon	drops 2
Acetic ether	drops 20
Spirit of nitrous ether	drops 20
Sugar	av.lb. 3
Alcohol, deodorized	fl.oz. 64
Water, distilled	fl.oz. 64

Dissolve the oils and ethers in the alcohol, the sugar in the water, mix the two liquids, and filter clear.

II.

Oil of caraway	drops 12
Oil of anise	drop 1
Oil of celery	drops 2
Vanilla extract	drops 12
Spirit of nitrous ether	fl.dr. 2
Alcohol, deodorized	fl.oz. 60
Water, distilled	fl.oz. 48
Sugar	av.oz. 40

Add the oils, spirit and extract to the alcohol, dissolve the sugar in the water, mix and filter clear.

III.

Oil of caraway	fl.dr. 1¼
Oil of anise	m. 40
Oil of bitter almonds, deprived of hydrocyanic acid	drops 8
Spirit of lemon, U. S. P.	fl.dr. 4
Tincture of wormwood (1 of herb to 5 of alcohol)	fl.oz. 2½
Orange flower water	fl.oz. 8
Alcohol, deodorized	fl.oz. 64
Simple syrup	fl.oz. 56

Mix and filter clear.

Kuemmel Liqueur (Breslau).

Oil of caraway	drops 40
Oil of fennel, sweet	drops 3
Oil of cinnamon, true	drops 2
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 60
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in he water, mix the two solutions; filter clear.

Kuemmel Liqueur (Dantzic).

Oil of caraway	drops 40
Oil of coriander	drops 2
Oil of bitter orange	drops 2
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 60
Water, distilled, enough to make gal.	1

Prepare like the preceding.

Kuemmel Liqueur (French).

Carvol	drops 25
Oil of anise	drops 12
Oil of rose, pure	drops 12
Vanilla extract (from vanilla)	fl.oz. 1
Spirit of nitrous ether	fl.dr. 10
Sugar	av.oz. 40
Alcohol, deodorized	fl.oz. 60
Water, distilled, enough to make gal.	1

Dissolve the first four ingredients in the alcohol, the sugar in the water, mix the two solutions, and filter clear.

Kuemmel Liqueur (Magdeburg).

Oil of caraway	drops 40
Oil of anise	drops 4
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 60
Water, distilled, enough to make gal.	1

Prepare like the preceding.

Kuemmel Liqueur (Russian Allash).

Oil of anise	drop 1
Oil of bitter almonds	drop 1
Oil of rose	drops 2
Oil of parsley	drops 2
Carvol	drops 12
Vanilla extract (from bean)	drops 20
Spirit of nitrous ether	fl.dr. 4
Alcohol, deodorized	fl.oz. 60
Sugar	av.oz. 40
Water, distilled, enough to make gal.	1

Dissolve the first seven ingredients in the alcohol, the sugar in the water, mix the solutions, and filter clear.

Kuemmel Ratafia. (Caraway Ratafia.)

This may be made similarly to kuemmel crême, the oil being increased to 64 drops, the alcohol to ½ gallon, and the sugar reduced to 44 av. ounces.

Lemon Cordial or Liqueur.

I.

Fresh peel of 4 lemons, cut fine.	
Alcohol, deodorized	fl.oz. 56
Sugar	av.lb. 28
Water, distilled, enough to make gal.	1

Macerate the lemon peel with the alcohol for 7 days, express, to the liquid obtained

add the sugar dissolved in the water, and filter. Color the mixture pale yellow with tincture or infusion of saffron or other suitable coloring agent.

II.

Oil of lemon, fresh	drops 30
Oil of orange, fresh	drops 6
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, filter clear, and color yellowish.

III.

Lemon peel, fresh	av.oz. 1
Lemon peel, dry	av.oz. 1
Orange peel, fresh	av.oz. ½
Diluted alcohol	pints 3½
Water, distilled	pints 2¼
Simple syrup	pints 2¼

Reduce the peels to small pieces, macerate with the diluted alcohol for 7 days, agitating occasionally, add the remaining ingredients and filter. A finer product is obtained by depriving all the peel of the inner white portion.

Lemon Ratafia.

Oil of lemon, pure and fresh	drops 40
Sugar	av.lb. 2
Alcohol, deodorized	gal. ½
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color yellowish, and filter clear.

Life, Elixir of. (Eau de Vie.)

Oil of lemon, pure and fresh	drops 18
Oil of cinnamon, true	drops 6
Oil of cardamom	drops 3
Oil of mace	drops 3
Oil of cloves, pure	drops 3
Oil of rose, pure	drop 1
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 60
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter clear.

Lime-Juice Cordial.

Lime juice	pints 2½
Sugar	av.lb. 2
Water	pints 4
Oil of orange	drops 5
Oil of nutmeg	drops 5

Mix, dissolve, and filter clear.

In order to preserve this preparation, solution of salicylic acid must be added. about 1 fluidounce.

Macaron, Creme de.

I.

Oil of bitter almonds	drops 15
Oil of cardamom	drops 3
Oil of cinnamon, true	drops 3
Oil of cloves, pure	drops 3
Oil of lemon, pure and fresh	drops 3
Oil of rose, pure	drop 1
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color light brown, and filter clear.

II.

Oil of bitter almonds	drops 12
Oil of cardamom	drops 8
Oil of cassia buds	drops 8
Oil of cloves, pure	drops 5
Oil of rose, pure	drops 1 or 2
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Prepare like the preceding.

III.

Cloves, coarse powder	gr. 30
Cinnamon, Ceylon, coarse powder	gr. 30
Mace, coarse powder	gr. 30
Bitter almonds, blanched	av.oz. 3
Sugar	av.lb. 3
Alcohol, deodorized	gal. ½
Water, distilled, enough to make gal.	1

Beat the almonds with water to a smooth paste, and with the spices macerate with the alcohol, mixed with an equal volume of water, for 7 days; dissolve the sugar in the remainder of the water; mix the whole together, and filter clear.

Malt Bitters.

Sweet orange peel	gr. 120
Bitter orange peel	gr. 120
Red cinchona	gr. 60
Angostura bark	gr. 60
Cardamom	gr. 60
Cinnamon bark	gr. 60
Malt extract, liquid	fl.oz. 6
Alcohol, Water	of each, sufficient

Mix the drugs, reduce to quite fine powder, and extract by percolation with a mixture of one part by measure of alcohol and two of water, so as to obtain 10 fluidounces of product. To the latter add the malt extract.

Mandarin, Creme de.

Aniseed, bruised	gr. 120
Musk seed, bruised	gr. 120
Safflower	gr. 60
Sugar	av.oz. 40
Alcohol, deodorized	fl.oz. 40
Water	enough to make gal. 1

Macerate the first three ingredients for 7 days with the alcohol mixed with an equal bulk of water, agitating occasionally; add the sugar dissolved in the remainder of the water, mix the two liquids, and filter clear.

Mannheim Water.

Oil of lemon, pure and fresh	drops 15
Oil of fennel, sweet	drops 6
Oil of aniseed	drops 6
Oil of cloves, pure	drops 3
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix and filter clear.

May Wine Essence or Extract. (Waldmeister Essence.—Tinctura or Essentia Asperulæ.)

I.

Coumarin	gr. 15
Tannin	av.oz. 1½
Oil of orange, sweet or bitter, or both mixed	fl.dr. 2½
Alcohol, deodorized	fl.oz. 22
Water, distilled	fl.oz. 9

Color green with chlorophyll or solution of indigo-carmine (see Chap. IV.), or greenish-brown with either of these combined with caramel.

To make May Wine, or Waldmeister (Maitrank), add 50 drops, or ½ teaspoonful, of the above, 2½ av. ounces of sugar, or 3 fluidounces of simple syrup, and about 2 fluidounces of water, better seltzer water, to a bottle of light white wine.

II.

Coumarin	gr. 30
Orange flower water, triple, imported	fl.oz. 2
Alcohol, deodorized	fl.oz. 2

Mix and dissolve.

To prepare the beverage add 1 teaspoonful, or more if desired, to a bottle of Rhine or Moselle wine, preferably adding to the latter one-fourth its volume of water.

III.

This essence may also be prepared from the herb as follows:

Fresh herb	av.lb. 1½
Alcohol, deodorized	pints 2

Bruise the herb in a stone or wedgewood mortar, add the alcohol, macerate for 8 days, express and filter. A small amount of cognac may be added to the alcohol. The liquid may be colored nicely with chlorophyll or solution of indigo-carmine.

If the fresh herb is not obtainable, the dried may be employed (one-half as much as of the fresh), but the fresh herb is to be preferred.

The plant "waldmeister," or "woodroot" in English, is found in some sections of this country, but, nevertheless, an essence with coumarin, etc., is usually employed.

The beverage may be prepared by using 1½ to 2 fluidounces of the above and 3 to 4 av. ounces of sugar to enough light Moselle wine to make 1 gallon.

May Wine Essence, Saccharated. (Saccharated Waldmeister Extract.)

May wine essence	fl.dr. 2½ or 3
Alcohol	fl.oz. 2
Simple syrup	enough to make fl.oz. 16

Color like the preceding, if desired.

To make the beverage, mix 4 fluidounces of this with a bottle of light wine.

This preparation can be more conveniently and quickly used than the preceding,

Menthe, Creme de. (Peppermint Crême.)

Oil of peppermint	drops 32
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 52
Water, distilled	enough to make gal. 1

Dissolve the oil in the alcohol, the sugar in the water; mix the two solutions, color green, or it may be left uncolored, and filter clear.

Mille Fleurs, Eau de.

Oil of neroli petale	drops 6
Oil of thyme, pure	drops 5
Oil of cloves, pure	drops 4
Oil of lavender flowers	drops 3
Oil of peppermint	drops 3
Oil of melissa, true	drops 3
Oil of cinnamon, true	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 50
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color green (see Chap. IV.), and filter clear.

Moka, Creme de.

Mocha coffee, freshly roasted and ground	av.oz. 12
Alcohol, deodorized	fl.oz. 60
Sugar	av.oz. 30
Water, distilled, enough to make gal.	1

Macerate the coffee with the alcohol and 8 fluidounces of water for 7 days, agitating occasionally, express, dissolve the sugar in the remainder of the water, mix, and filter clear.

See also "Coffee Liqueur" and "Coffee Crême."

Napoleon Aquavit.

This may be prepared like "Napoleon Liqueur," the oil of lemon being increased to 18 drops, the sugar reduced to 12 av. ounces, the alcohol increased to 68 fluidounces, and mixture is to be colored dark red.

Napoleon, Eau de.

Oil of lemon, fresh	drops 15
Oil of cloves	drops 6
Oil of mace, essential	drops 3
Oil of cassia buds	drops 3
Oil of rose	drop 1
Vanilla extract	fl.oz. 1 to 1½
Alcohol, deodorized	fl.oz. 50
Water, distilled, enough to make gal.	1

Dissolve the oils and extract in the alcohol, the sugar in the water, mix, color blue (see Chap. IV.), and filter clear.

Napoleon Liqueur.

Oil of lemon, pure and fresh	drops 15
Oil of coriander	drops 9
Oil of cassia buds	drops 6
Oil of mace, essential	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color red, and filter clear.

Nordhausen Brandy.

Orris root	gr. 30
Licorice root	gr. 60
St. John's bread	gr. 300
Salt	gr. 60
Oil of juniper berries, pure and fresh	drop 1
Triple extract of jasmine (commonly sold as "oil of jasmine")	drops 4
Acetic ether	drops 6
Spirit of nitrous ether	fl.dr. 1½
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Contuse the first three ingredients to coarse powder, add the alcohol, the salt, oil, extract, spirit and ether, and finally the water in a boiling condition, cover the vessel tightly, allow the whole to cool slowly, and filter.

This liquor is usually left uncolored; occasionally it is tinted by adding a very few drops of caramel.

Noyau, Creme de

I.

Peach kernels	av.oz. 8
Sugar	av.oz. 44
Alcohol, deodorized	fl.oz. 44
Water, distilled, enough to make gal.	1

Beat the kernels to smooth paste with some sugar and water, add the alcohol mixed with an equal bulk of water, macerate for 7 days, agitating frequently, strain, add the sugar dissolved in the remainder of the water, and filter clear.

II.

Bitter almonds, blanched and bruised	av.oz. 10
Sugar	av.oz. 40
Alcohol, deodorized	fl.oz. 50
Water, distilled	fl.oz. 50

Mix all, macerate for 7 days, agitating frequently, strain, color lightly with caramel, if desired, and filter clear.

Noyau de Martinique, Creme de. (Martinique Noyau Crême.)

Bitter almonds, blanched and bruised	av.oz. 1¼
Lemon essence	drops 16
Sugar	av.oz. 40
Alcohol, deodorized	pints 2
Water	enough to make gal. 1

Macerate the bitter almonds and lemon essence with the alcohol mixed with 36 fluidounces of water, for 7 days, agitating frequently, strain, add the sugar dissolved in the remainder of the water, and filter clear.

Nutmeg Creme.

Oil of nutmeg, essential	drops 32
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz 52
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color light red, and filter clear.

Nutmeg Liqueur.

Oil of mace, essential	drops 40
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled enough to make gal.	1

Prepare like the preceding.

Nutmeg Ratafia.

This is made similarly to nutmeg crême, the oil being increased to 40 drops, the alcohol to ½ gallon, and the sugar reduced to 2 av. pounds.

Or, Eau de. (Gold-water Liqueur.)

Oil of lemon	drops 30
Oil of mace, essential	drops 5
Oil of cinnamon	drops 3
Alcohol, deodorized	fl.oz. 48
Sugar	av.oz. 60
Water, distilled enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the solutions, color yellow, filter clear, and add some leaves of gold.

Orange Bitters.

I.

Sweet orange peel, fresh, cut	av.oz. 4
Citron peel, candied, cut	av.oz. 2
Gentian, cut	av.oz. 2
Cascarilla, cut	av.oz. 2
Alcohol, Water....of each enough to make gal.	½

Macerate the solids for 7 days with 64 fluidounces of a mixture composed of 1 volume of alcohol and 3 of water, agitating occasionally, then filter and pass through the filter enough of the same menstruum to make 64 fluidounces.

II.

Orange berries	av.oz. 3
Orange peel, sweet	gr. 300
Lemon peel	gr. 50
Juniper berries	gr. 50
Cassia bark	gr. 25
Cloves	gr. 25
Sugar	av.oz. 6
Alcohol, deodorized	fl.oz. 56
Water, distilled	fl.oz. 68

Reduce the solids to powder and macerate with the liquids for 7 days, or extract by percolation; color with caramel, and in this liquid dissolve the sugar.

III.

Orange peel, sweet, fresh, cut fine	av.oz. 4
Bitter orange peel, coarse powder	av.oz. 2
Oil of orange, fresh	fl.dr. 1
Alcohol	fl.oz. 12
Water	fl.oz. 6

Mix all, macerate for 7 days, agitating occasionally and filter.

This makes an Orange Bitters Extract, from which the bitters may be prepared by mixing one pint of the above with 2 pints of water and 1 of alcohol.

Orange Cordial.

Oil of orange, pure and fresh	drops 45
Oil of lemon	drops 25
Oil of coriander	drops 15
Oil of cloves	drops 7
Oil of cassia	drops 7
Alcohol, deodorized	fl.oz. 28
Sugar	av.oz. 44
Water, distilled	fl.oz. 72

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions and filter clear.

Orange Creme. (Pomeranzen Crême.—Crême d'Orange.)

Oil of bitter orange	drops 15
Alcohol, deodorized	fl.oz. 56
Sugar	av.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color brown and filter clear.

Orange Flower Creme. (Crême de Naphe.)

I.

Oil of neroli petale	drops 16
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color yellowish and filter clear.

II.

Orange flower water, best	fl.oz. 20
Sugar	av.lb. 2½
Diluted alcohol	pints 5

Mix, dissolve and strain.

Orange Liqueur. (Pomeranzen Liqueur.)

Oil of neroli petale	drops 15
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 50
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix the two liquids, color yellow and filter clear.

Orange Liqueur, White. (Pomeranzen Liqueur, Weisser.)

Oil of bitter orange	drops 24
Oil of sweet orange	drops 12
Sugar	av.oz. 28
Alcohol, deodorized	av.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix and filter clear.

Orange Ratafia. (Pomeranzen Ratafia.)

This is prepared similarly to Orange Crême, the oil being increased to 40 drops, the alcohol to 60 fluidounces, and the sugar reduced to 44 av. ounces.

Orient, Eau de.

Oil of lemon, pure and fresh	drops 9
Oil of fennel, sweet	drops 9
Oil of neroli petale	drops 3
Oil of calamus	drops 3
Oil of cardamom	drops 3
Oil of cinnamon	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color blue (see Chap. IV.) and filter clear.

Paradise Water.

Oil of lemon, pure and fresh	drops 12
Oil of angelica root	drops 6
Oil of calamus	drops 3
Oil of aniseed	drops 3
Oil of cardamom	drops 3
Oil of coriander	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color green, filter clear and add some leaves of silver.

Parfait d'Amour. (Perfect Love Cordial.)

I.

Oil of cassia buds	drops 9
Oil of cardamom	drops 3
Oil of anise	drops 3
Oil of lemon, pure and fresh	drops 3
Oil of lavender flowers	drops 3
Oil of cloves	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Prepare like the preceding, coloring a rose tint.

II.

Lemon peel, fresh, cut fine	av.oz. 1¼
Vanilla extract	fl.dr. 1
Cochineal, powder	gr. 100
Sugar	av.lb. 2½
Diluted alcohol	pints 6½

Mix the first three ingredients with the diluted alcohol, macerate for several days, agitating occasionally, strain, add the sugar, dissolve the latter by agitation and filter.

Peppermint Cordial. (Mint Cordial.—Eau de Chasseurs.)

Peppermint water, fresh	fl.oz. 52
Holland gin, true	fl.oz. 52
Sugar	av.lb. 2½

Mix, dissolve the sugar by agitation and filter clear.

Pepsin Bitters.

Mix one part of pepsin wine or elixir with about 4 parts of peruvian bitters.

Persico Liqueur. (Persicot Liqueur.)

Persico liqueur oil	fl.dr. ½
Alcohol, deodorized	fl.oz. 48
Simple syrup	fl.oz. 52
Water, distilled	fl.oz. 28

The Persico Liqueur Oil is a mixture of

Oil of bitter almonds, deprived of hydrocyanic acid	parts 94
Oil of cloves	parts 3
Oil of cinnamon	parts 3

Peruvian Bitters. (Calisaya or Cinchona Bitters.)

A concentrated preparation, or Peruvian Bitters Extract, may be made as follows:

Cinchona bark	av.oz. 3
Bitter orange peel	av.oz. 2
Cinnamon bark	av.oz. ¼
Galangal	gr. 60
Cloves	gr. 60
Vanilla	gr. 60
Alcohol, Water, of each, enough to make	fl.oz. 16

Mix the solids, reduce to fine powder and extract by slow percolation with a mixture of 3 volumes of alcohol with 1 of water.

To make the bitters, mix 1 fluidounce of this extract with 6 fluidounces of alcohol and 9 of water. Peruvian Wine-Bitters may be prepared by substituting sweet catawba or sherry wine for the alcohol and water in this mixture.

Plaisir des Dames Liqueur.

Oil of bitter almonds (deprived of hydrocyanic acid)	fl.dr. 1¼
Oil of coriander	drops 25
Oil of cinnamon, true	drops 25
Oil of angelica root	drops 25
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 50
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color with black cherry juice and filter clear.

Princesses, Eau des.

Oil of lemon, pure and fresh	drops 6
Oil of melissa, true	drops 6
Oil of bitter almonds	drops 4
Oil of lavender flowers	drops 3
Oil of cloves, true	drops 3
Oil of rosemary, pure	drops 2
Oil of cinnamon	drops 2
Ambergris, gray	gr. 1
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, add the ambergris, macerate for 14 days, agitating occasionally, add the sugar previously dissolved in the water, color blue, filter clear, and add some leaves of silver.

Prunelle Cordial. (Eau de Prunelles.)

Prunes	av.oz. 6
Milk	fl.oz. 6
Alcohol, deodorized	pints 3
Sugar	av.lb. 3
Water, distilled	pints 3

Cut up the fruit, crush the stones, bruising the kernels, macerate with the alcohol for 7 days, agitating frequently, decant the liquid, to the marc add the milk, boiling hot, and macerate for 24 hours. Then mix decanted liquid with the other, strain, add the sugar dissolved in the water, and filter clear.

Pucelle, Eau de.

Oil of juniper berries, pure and fresh	drops 9
Oil of fennel, sweet	drops 6
Oil of angelica root	drops 6
Oil of cloves, pure	drops 3
Oil of cinnamon	drops 3
Oil of bergamot	drops 3
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix, color yellow, and filter.

Punch Extract. (Punch Essence.)

The formulas for this beverage differ greatly. The formula for the original drink has been greatly modified, and every operator probably modifies it to suit his own fancy. A number of formulas are here given to suit different ideas.

I.

Lemons	20
Orange	½
Batavia arrac	gal. ½
Brandy, best	pint 1

Crush the fruit, macerate the whole for 24 hours, and filter.

II.

Spirit of lemon, U.S.P	fl.dr. 2½
Solution of citric acid	fl.oz. 1
Batavia arrac	gal. ½
Simple syrup	gal. ½

Mix, and filter clear.

III.

Spirit of lemon, U.S.P	fl.dr. 4
Solution of citric acid	fl.oz. 1
Sugar	av.lb. 3
Alcohol, deodorized	pints 3¼
Water, distilled	pints 3

Mix the spirit with the alcohol, dissolve the sugar in the water, add the citric acid solution, combine both liquids, and filter clear.

This beverage may be improved by replacing a portion of the alcohol with Jamaica rum or arrac, also by somewhat increasing the proportion of sugar as well as by adding a few drops of oil of rose.

The punch extract may be tinted with caramel, if desired.

IV.

Pekoe tea	gr. 40
Vanilla, reduced to powder	gr. 10
Spirit of lemon, U.S.P	fl.dr. 5
Solution of citric acid	fl.oz. 1
Rum, best	fl.oz. 72
Simple syrup	fl.oz. 56

Mix, macerate for several days, and filter.

It may also be prepared by omitting the tea and vanilla and adding 5 drops of oil of cassia; the rum may be slightly increased and the syrup decreased.

Punch Extract, Arrac.

Any punch extract containing arrac may be used under the above name; the following is also a good formula:

Pineapple	½
Alcohol, deodorized	pints 2½
Arrac	pints 1½
Sugar	av.lb. 4
Water, distilled..enough to make gal.	1

Extract the fruit with the alcohol and arrac, filter, and add the remaining ingredients.

Punch Extract, Rum.

Rum, best	pints 2½
Moselle wine, best	pints 1½
Orange flower water, imported	fl.oz. 3
Spirit of lemon, U.S.P	fl.dr. 1
Sugar	av.lb. 4
Water, distilled..enough to make gal.	1

Mix, dissolve, and filter clear.

Punch Extract, Tea.

I.

Arrac, best	pints 1½
Rum, best	pints 2½
Solution of citric acid	fl.dr. 4
Infusion of tea (1 in 10)	fl.oz. 6
Essence of lemon	fl.dr. 1½
Sugar	av.lb. 4
Water, distilled..enough to make gal.	1

Mix, dissolve, and filter.

The essence of lemon for this preparation is to be prepared by extracting the cut or grated peel of 1 lemon and 1 orange with enough menstruum (three-fourths alcohol and one-fourth water) to make 4 fluidounces.

By using different varieties of the tea for the above beverage, the drink may be suitably modified.

II.

Lemon	¼
Orange	1 or 1½
Rum, best	pint 1
Arrac, best	pints 2
Tea, green	av.oz. ½
Tea, black	av.oz. ½
Sugar	av.lb. 2½
Solution of citric acid	fl.oz. ½
Water, distilled	pints 1½

Grate the peel of the fruits, express the latter, macerate peel and juice with the rum and arrac for 24 hours, and strain. Make the two teas into ½ pint of infusion by macerating with hot water for 15 minutes and decanting. Dissolve the sugar in the remainder of the water, add the solution of citric acid, finally combine all these liquids, and filter.

See also "Punch Extract," No. IV.

Punch Liqueur.

Oil of lemon, pure and fresh	drops 4
Lemon, peel (cut fine) and juice	¼
Red wine	fl.oz. 12
Rum, best	fl.oz. 24
Alcohol, deodorized	fl.oz. 44
Sugar	av.oz. 44 to 56
Water, distilled	fl.oz. 60

Mix first five ingredients, add a hot solution of the sugar in the water, cover the vessel, set aside for ½ hour, color with caramel, and filter.

Raspberry Creme.

Raspberry juice	pints 3
Black cherry juice	fl.oz. 12
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 40
Water, distilled.enough to make gal.	1

Dissolve the sugar in the water, add the remaining ingredients, and filter.

See also "Framboises, Crême de."

Raspberry Liqueur.

Raspberry juice	fl.oz. 48
Alcohol, deodorized	fl.oz. 30
Water, distilled	fl.oz. 36
Sugar	av.oz. 28

Mix the juice with the alcohol, dissolve the sugar in the water, mix the two solutions, and filter.

This may be modified by increasing the juice to 60 fluidounces or reducing to 32 fluidounces, and the alcohol may be reduced to 26 or even 22 fluidounces, the water to be in each instance reduced or increased to retain the same total volume. The mixture may be flavored with 6 drops of oil of lemon or a mixture of this with 2 or 3 drops of oil of bitter almonds. The mixture should be tinted with one of the red colors (see Chap. IV.), or with black cherry or huckleberry juice.

See also "Framboises, Crême de."

Raspberry Ratafia.

This is made like raspberry crême, the sugar being reduced to 44 av. ounces.

Rock and Rye.

Rye whiskey.....pints 3
Simple syrup.....pint 1

Rock, Rye and Celery.

Rye whiskey.....pints 3
Simple syrup.....pint 1
Celery essence.....fl.dr. 1½

Rock and Rye, Tolu.

Rye whiskey.....pints 3
Simple syrup.....pint 1
Tincture of tolu.....fl.oz. 1

Mix the whiskey and tincture, clarify by filtering through purified talcum, and add the syrup.

Romantique, Creme.

Oil of juniper berries, pure and fresh.....drops 60
Oil of lemon, fresh.....drops 40
Oil of rosemary, pure.....drops 20
Oil of angelica root.....drops 20
Oil of celery.....drops 20
Oil of cloves, pure.....drops 20
Oil of ginger.....drop 1
Oil of parsley.....drop 1
Sugar.....av.oz. 28
Alcohol, deodorized.....fl.oz. 56
Water, distilled, enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, mix, color rose tint (see Chap. IV.), and filter clear.

Rose, Creme de.

Oil of rose, true and pure.....drops 8
Sugar.....av.oz. 52
Alcohol, deodorized.....fl.oz. 56
Water, distilled, enough to make gal. 1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color a rose tint, and filter clear.

Rose Liqueur.

Rose oil, true and pure.....drops 3
Palmarosa oil.....drops 3
Sugar.....av.oz. 28
Alcohol, deodorized.....fl.oz. 52
Water, distilled, enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color a rose tint, and filter clear.

The oil of rose may be omitted, the palmarosa oil increased to 15 drops and 2 drops of oil of cassia buds and 1 of oil of lemon added.

Rose Ratafia.

This may be prepared similarly to Crême de Rose, the alcohol being increased to 60 fluidounces, the sugar reduced to 44 av. ounces.

Royale, Eau.

Ambergris, gray.....gr. 1
Vanilla, best.....gr. 5
Oil of lemon, pure and fresh.....drops 9
Oil of bitter orange.....drops 6
Oil of cloves, pure.....drops 3
Oil of cinnamon, true.....drops 3
Oil of mace, essential.....drops 3
Sugar.....av.oz. 28
Alcohol, deodorized.....fl.oz. 56
Water, distilled, enough to make gal. 1

Triturate the ambergris and vanilla with a small amount of sugar to fine powder, dissolve the oils in the alcohol and the remainder of the sugar in the water, mix all three, macerate for 7 days, agitating occasionally, color with black cherry juice, and filter clear.

Sante, Eau de.

Oil of lemon, pure and fresh.....drops 6
Oil of rosemary, pure.....drops 3
Oil of lavender flowers.....drops 3
Oil of peppermint.....drops 3
Oil of angelica root.....drops 3
Oil of sweet marjoram.....drops 3
Oil of cubeb.....drops 3
Sugar.....av.oz. 24
Alcohol, deodorized.....fl.oz. 56
Water, distilled, enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, color green, and filter clear.

Spanish Bitters.

A concentrated preparation, or Spanish Bitters Extract, may be made from the following:

Orris root.....av.oz. 1
Calamus.....av.oz. 1
Polypody.....av.oz. ½
Bitter orange peel.....av.oz. ½
German chamomile.....av.oz. ¼
Coriander.....av.oz. ¼
Centaury.....gr. 60
Alcohol,
Water, of each, enough to make fl.oz. 16

Mix the solids, reduce to fine powder, and extract by slow percolation with a mixture of 5 volumes of alcohol and 3 of water.

To prepare the bitters, mix 1 fluidounce with 9 fluidounces of water and 6 of alcohol. Spanish Wine-Bitters may be prepared by replacing the alcohol and water with sweet catawba or sherry wine.

Spearmint Liqueur.

Oil of spearmint	drops 30
Sugar	av.oz. 28
Alcohol, deodorized	fl.oz. 52
Water, distilled, enough to make gal.	1

Dissolve the oil in the alcohol, the sugar in the water, mix, color green, and filter clear.

Stomach Drops.

Tormentilla root	gr. 250
Pimpinella root	gr. 250
Gentian	gr. 125
Galangal	gr. 100
Agaric	gr. 50
Oil of peppermint	drops 15
Oil of wormwood	drops 9
Oil of cassia buds	drops 9
Alcohol, Water	of each, sufficient

Mix the solids, reduce to coarse powder, and extract by percolation with a mixture of 1 volume of water and 4 of alcohol, so as to obtain 30 fluidounces of liquid; to the latter add the oils dissolved in 2 fluidounces of alcohol, and color brown with caramel.

To the solids used in the above are also sometimes added 125 grains each of columbo, ginger, calamus and zedoary. The preparation is also made with other bitter drugs, such as quassia, carduus, benedictus, bitter orange peel, orange berries, cinnamon, centaury, etc.

Stomach Drops, Bitter.

Tormentilla root	av.oz. 1
Pimpinella root	av.oz. 1
Ginger	av.oz. 1
Agaric	gr. 130
Oil of peppermint	drops 10
Oil of orange	drops 5
Oil of wormwood	drops 5
Oil of calamus	drops 5
Oil of cassia buds	drops 5
Alcohol, Water	of each, sufficient

Mix the first three ingredients, reduce to coarse powder, and extract by percolation with a mixture of 1 volume of water and 3 of alcohol, so as to obtain 29 fluidounces of liquid. To the latter add the oils previously dissolved in 3 fluidounces of alcohol, color the mixture red or brown and filter if necessary.

Stomach Elixir.

Tormentilla root	av.oz. 1
Pimpinella root	av.oz. 1
Agaric	gr. 130
Oil of peppermint	drops 12
Oil of wormwood	drops 4
Simple syrup	fl.oz. 4
Alcohol, Water	of each, sufficient

Mix the first three ingredients, reduce to coarse powder, extract by percolation with a mixture of 1 volume of water with 14 of alcohol to obtain 25 fluidounces of liquid; to the latter add the oils dissolved in 3 fluidounces of alcohol, and the syrup; color brown and, if necessary, filter clear.

Stoughton Bitters. (Stoughton's Elixir—Compound Tincture of Wormwood.)

1.

Wormwood	av.oz. 3½
Bitter orange peel	av.oz. 3½
Gentian	av.oz. 3½
Rhubarb	av.oz. 1¼
Cascarilla	gr. 300
Aloes, socotrine	gr. 300
Diluted alcohol	gal. 1

Reduce the solids to powder and extract with the liquid, either by maceration or percolation.

The original formula has been stated to be quite similar to the above; to correspond to it, the first three ingredients of the above should be reduced to 3 ounces, the same amount of germander should be added, the rhubarb should be increased to 2 ounces, and the cascarilla and aloes reduced to ½ av. ounce.

This latter is the formula of Dr. Stoughton as first given in the Codex Medicamentarius of 1818, where it was recognized under the title "Tinctura Amara," it being still recognized in the French pharmacopœia.

II.

Gentian	av.oz. 3
Serpentaria	av.oz. 2
Bitter orange peel	av.oz. 2
Red saunders	av.oz. 1
Calamus	av.oz. ½
Cardamom	av.oz. ¼
Alcohol, Water	of each, enough to make gal. 1

Reduce the solids to moderately fine powder, and extract with a mixture of 1 volume of alcohol with 3 of water to make 1 gallon of liquid. The red saunders may be omitted and the liquid colored with caramel or carmine.

III.

Gentian	av.oz. 8
Bitter orange peel	av.oz 4
Cardamom	gr. 60
Diluted alcohol	enough to make gal. 1

Reduce the solids to moderately fine powder, and extract by percolation with the diluted alcohol.

IV. An extemporaneous preparation is sometimes made as follows:

Compound tincture of gentian	fl.oz. 4
Tincture of cardamom	fl.oz. 2
Tincture of quassia	fl.oz. 2
Tincture of orange peel	fl.oz. 2
Tincture of red saunders	fl.oz. 2
Oil of cloves	drops 5
Diluted alcohol	enough to make gal. 1

Sometimes simply compound tincture of gentian is dispensed for it.

V. A concentrated preparation to be dispensed under the name of Stoughton Bitters Extract or Stoughton Extract may be made according to any of the above formulas by reducing the amount of menstruum, alcohol or diluted alcohol, and increasing the drugs or flavors. The bitters may be prepared by mixing this extract with the appropriate amount of diluent. Stoughton Wine-Bitters may be prepared by mixing this extract with sweet catawba or sherry wine.

Strawberry Creme. (Crême de Fraises.)

Strawberries, fresh, ripe	av.lb. 2
Sugar	av.oz. 56
Alcohol, deodorized	fl.oz. 52
Water, distilled	enough to make gal. 1

Crush the berries, macerate for 7 days with the alcohol, agitating occasionally, express, and strain; to the liquid add the sugar dissolved in the water, and filter the whole.

Strawberry Ratafia.

Strawberry crême may be converted into ratafia by increasing the alcohol to 60 fluidounces and reducing the sugar to 44 av. ounces.

Swedish Bitters. (Elixir of Long Life.)

Aloes	gr. 90
Agaric	gr. 90
Rhubarb	gr. 90
Gentian	gr. 90
Zedoary	gr. 90
Galangal	gr. 90
Ginger	gr. 90
Myrrh	gr. 90
Saffron	gr. 90
Theriac	gr. 180
Sugar	av.oz. 3
Diluted alcohol	enough to make fl.oz. 32

Mix the first nine ingredients, reduce to coarse powder, extract by percolation with the diluted alcohol so as to obtain 28 fluidounces of product; to the latter add the sugar and theriac previously quite well mixed, agitate occasionally until the sugar is dissolved, and filter.

A simpler formula is as follows:

Compound tincture of gentian	fl.oz. 1½
Tincture of aloes and myrrh	fl.oz. 3
Tincture of rhubarb	fl oz. 3
Water	fl.oz. 1½
Alcohol	fl.oz. 6

Mix, and filter clear.

Swiss Alpine Bitters.

A concentrated preparation, or Swiss Alpine Bitters Extract, may be made as follows:

Wild cherry bark	av.oz. 1
Cinchona bark	av.oz. 1
Bitter orange peel	av.oz. ½
Sweet orange peel	av.oz. ½
Cardamom	av.oz. ¼
Caraway	av.oz. ¼
Cinnamon	gr. 50
Cloves	gr. 50
Nutmeg	gr. 50
Alcohol, Water	of each enough to make fl.oz. 16

Mix the solids, reduce to powder, and extract by slow percolation with a mixture of 3 volumes of alcohol and 1 of water.

The bitters may be prepared from this by mixing 1 fluidounce of the extract with 6 fluidounces of alcohol and 9 of water. Swiss Alpine Wine-Bitters may be prepared in a similar manner by replacing the alcohol and water with sweet catawba or sherry wine.

Thee, Eau de. (Tea Liqueur.)

Pekoe tea	av.oz. 3
Alcohol, deodorized	fl.oz. 52
Sugar	av.oz. 28
Water, distilled	enough to make gal. 1

Macerate the tea with the alcohol and 12 fluidounces of water for 7 days, agitating occasionally, strain and express, add the sugar dissolved in the water, and filter.

Usquebaugh Liqueur (Scotch).

Oil of star anise	drops 3
Oil of mace, essential	drops 3
Oil of cardamom	drops 3
Oil of cloves, pure	drops 3
Oil of lavender flowers	drops 6
Oil of cassia buds	drops 12
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 56
Water, distilled	enough to make gal. 1

Dissolve the oils in the alcohol, the sugar in the water, color yellow, and filter clear.

Vanilla, Creme de. (Vanilla Crême.)

Vanilla, best quality, cut fine and bruised	gr. 120
Alcohol, deodorized	fl.oz. 52
Sugar	av.oz. 56
Water, distilled, enough to make gal.	1

Macerate the vanilla with the alcohol and 12 fluidounces of water for 7 days, agitating occasionally, dissolve the sugar in the remainder of the water, mix the two liquids, color pale red, and filter clear.

The vanilla may be greatly reduced, say to about 60 grains. Sometimes a small amount of oil of rose, about 2 drops to the gallon, is added to the mixture.

Vanilla Liqueur.

Vanilla, best quality, cut fine and bruised	gr. 90
Alcohol, deodorized	fl.oz. 52
Sugar	av.oz. 28
Water, distilled, enough to make gal.	1

Macerate the vanilla with the alcohol and 28 fluidounces of water for 7 days, agitating occasionally, dissolve the sugar in the remainder of the water, mix the two liquids, and filter clear.

Vanilla Ratafia.

Vanilla, coarse powder	gr. 100
Oil of rose	drops 2
Sugar	av.oz. 44
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Macerate the vanilla with the alcohol for 7 days, agitating constantly, strain, add the oil of rose, dissolve the sugar in the water, mix the two liquids, color pale red, and filter clear.

Vermouth. (Wormwood Liqueur.)

I.

Oil of wormwood, French preferred	drops 6
Oil of angelica root	drops 2
Oil of galanga	drops 2
Oil of bitter almonds	drops 2
Spirit of nitrous ether	m. 100
Alcohol, deodorized	fl.oz. 60
Water, distilled	fl.oz. 50
Sugar	av.lb. 2

Dissolve the oils and spirit in the alcohol, the sugar in the water, mix, color green with chlorophyll or tincture of grass, and filter clear.

II.

Oil of wormwood, pure	drops 24
Oil of calamus	drops 6
Oil of cinnamon, true	drop 1
Oil of cloves	drop 1
Sugar	av.oz. 24
Alcohol, deodorized	fl.oz. 56
Water, distilled, enough to make gal.	1

Prepare like the preceding.

It is sometimes prepared with only oil of wormwood, which is then increased to 30 drops.

Vie de Dantzick, Eau de.

Oil of lemon, pure and fresh	drops 15
Oil of cinnamon	drops 9
Oil of orange, pure and fresh	drops 6
Oil of coriander	drops 2
Alcohol, deodorized	fl.oz. 48
Sugar	av.oz. 60
Water, distilled, enough to make gal.	1

Dissolve the oils in the alcohol, the sugar in the water, mix the two solutions, and filter clear.

Walnut Brandy.

Vanilla	gr. ½
Aniseed	gr. 1
German chamomile	gr. 2
Cloves	gr. 5
Cardamom	gr. 5
Cinnamon	gr. 5
Calamus	gr. 8
Linden flowers	gr. 8
Sweet orange peel	gr. 12
Lemon peel	gr. 12
Coriander	gr. 12
Cognac, best	fl.dr. 2
Rum, Jamaica	fl.dr. 2
Alcohol	fl.oz. 27
Water	fl.oz. 27
Walnuts, dried	av.oz. 5

The walnuts used for the above should be collected before the outer peel has hardened, and through which a pin or needle can be passed without using much force. These should be dried in a cool, airy place, and allowed to lie until they have turned a dark, almost black, color. They should then be crushed, the remaining solids added in the form of coarse powder, the liquids added, the whole macerated for about 3 weeks, agitating occasionally; strain, express and filter.

If sweetened with sugar this may replace the so-called "blackberry balsams" as an astringent in bowel complaints.

Wild Cherry Bitters.

I.

Wild cherry bark	av.oz.	10
Sweet orange peel	av.oz.	2
Cinchona	av.oz.	1½
Cardamom	av.oz.	1
Hazelwort	av.oz.	½
Diluted alcohol	fl.oz.	100
Honey	av.oz.	20
Simple syrup	fl.oz.	16
Water	enough to make gal.	1

Reduce the solids to coarse powder, extract with the diluted alcohol by maceration or percolation, add the remaining liquids, and filter.

II.

Wild cherry bark	av.oz.	10
Mitchella	av.oz.	2½
Juniper berries	av.oz.	1
Prickly ash bark	av.oz.	½
Sugar	av.oz.	20
Alcohol, Water	of each, sufficient	

Mix the first four ingredients, reduce to coarse powder, extract by maceration or percolation with a mixture of 1 volume of alcohol and 2 of water to make 7 pints of liquid, and in the latter dissolve the sugar.

III.

A Wild Cherry Bitters Extract may be prepared by mixing the following:

Fluid extract of wild cherry	fl.oz.	15
Oil of cherry laurel or bitter almond (deprived of hydrocyanic acid)	fl.dr.	1
Alcohol, deodorized	fl.oz.	1

To prepare the bitters, mix 8 fluidounces of this extract with 1½ pints of alcohol and 2½ of water. Wild Cherry Wine-Bitters may be prepared by mixing 1½ fluidounces of this extract with 1 quart of sweet catawba or sherry wine.

Wormwood Bitters.

Orange berries	av.oz.	2½
Gentian	av.oz.	1½
Wormwood	av.oz.	¾
Cinnamon	av.oz.	½
Galangal	gr.	150
Ginger	gr.	150
Angelica root	gr.	90
Cloves	gr.	45
Oil of cinnamon	drops	30
Oil of lemon	drops	25
Oil of anise	drops	20
Whiskey or diluted alcohol	gal.	1

Mix the solids, reduce to coarse powder, mix the whole, macerate for 7 days, agitating occasionally, express and filter clear.

Wormwood Creme.

I.

Oil of wormwood, pure	drops	32
Sugar	av.lb.	3
Alcohol, deodorized	fl.oz.	56
Water, distilled..enough to make gal.		1

Dissolve the oil in the alcohol, the sugar in the water, mix the two solutions, color green and filter clear.

II.

Oil of wormwood	drops	24
Oil of cassia buds	drops	8
Oil of cloves	drops	8
Sugar	av.lb.	3
Alcohol, deodorized	fl.oz.	56
Water, distilled..enough to make gal.		1

Prepare like the preceding.

Wormwood Ratafia.

This may be prepared like wormwood crême No. II., by increasing the wormwood oil to 40 drops and the alcohol to ½ gallon, and reducing the clove oil to 5 drops and sugar to 2 av. pounds.

CHAPTER XXI.

MISCELLANEOUS DIETETIC ARTICLES

Arrowroot Milk.

Arrowroot	av.oz.	½
Water, boiling	fl.oz.	4
Milk, boiling	fl.oz.	8

Mix the arrowroot with a small quantity of cold water, then add gradually the boiling water, then the boiling milk, and finally sufficient sugar, spice, wine, etc., to suit the taste.

Baking Powders.

These are powdery mixtures for baking purposes which form a gas and cause a porous condition of the baked article similar to that formed by using yeast. Baking powders, always, in addition to the gas generated, leave a solid residue, which is usually of a more or less deleterious character, depending upon the composition of the powder. The ideal powder leaves a nutritious residue like sodium chloride, but such a one it is impossible to prepare. Hydrochloric acid and sodium bicarbonate would make sodium chloride and carbonic acid gas, but these cannot be mixed without causing the chemical change to occur immediately, and the use of these ingredients cannot be left to the judgment of the ordinary housewife. Ammonium carbonate itself is an excellent yeast substitute, as under the influence of heat it is entirely decomposed into two gases, viz., ammonia and carbonic acid gas. For several reasons it cannot be left to housewives to use, although bakers employ it quite largely.

The gas eliminated by almost all baking powders is carbonic acid gas, which is evolved from a carbonate, almost always sodium bicarbonate, by the action of an acid substance, such as tartaric acid, cream of tartar, acid phosphate of calcium, or alum, in the presence of moisture.

The proportion of the ingredients should be so adjusted that when the chemical reaction is completed there should remain no excess of either carbonate or acid substance. Owing to impurities present in commercial chemicals, it is not always easy to make an accurate adjustment. As an example of a substance which is almost always impure, being usually grossly adulterated, is cream of tartar.

Cream of tartar baking powders are usually considered the best, but those made with tartaric acid are in no wise inferior, and there is the advantage that tartaric acid is usually quite pure. Alum baking powders are generally considered inferior, as they are likely to cause digestive derangement. Alum is, however, quite a common constituent of commercial baking powders, because of its cheapness.

All the ingredients of baking powders should be well dried, ammonium compounds excepted; should be in very fine powder, and should be well mixed and sifted. In order that the carbonate and acid shall not readily absorb moisture from the air, they should be mixed with a diluent which is non-active chemically, and which will remain perfectly dry, a farinaceous diluent being preferred, for example, wheat flour or starch; rice flour, sago and other similar substances might be used. The amount of this diluent depends principally on the price to be asked for the mixture. In the formulas given below, more of the farinaceous material may be added if desired.

The mixture should finally be packed tightly into containers; the firmer the packing the better it will retain its properties. Good containers should be used; well-stoppered, wide-mouthed bottles are the best, but well-paraffined wooden or pasteboard boxes may be used. The ordinary tin cans are not entirely satisfactory.

Baking Powder, All-Ready.

Sodium bicarbonate	av.oz. 6
Tartaric acid	av.oz. 5
Table salt	av.oz. 4
Sugar	av.oz. 4
Starch	av.oz. 6

This is called "all-ready baking powder" because no further addition of sugar and salt is required to the article to be prepared.

Baking Powder, Alum.

I.

Ammonia alum, dried (burnt)	av.oz. 8
Sodium bicarbonate	av.oz. 8
Starch	av.oz. 8

II.

Alum, fine powder	av.oz. 2
Tartaric acid	av.oz. 4
Sodium bicarbonate	av.oz. 8
Starch or flour	av.oz. 8

III.

Alum, fine powder	av.oz. 3
Tartaric acid	av.oz. 3
Sodium bicarbonate	av.oz. 8
Starch or flour	av.oz. 8

See also "Ammonia Baking Powder" and "Phosphate and Alum Baking Powder."

Baking Powder, Ammonia.

I.

Ammonium carbonate, clear pieces	av.oz. 1½
Tartaric acid	av.oz. 2
Alum, powder	av.oz. 4
Sodium bicarbonate	av.oz. 6
Starch (or flour or potato farina)	av.oz. 8

The ingredients must be pulverized and sifted separately, dried at a low temperature (except the ammonia), mixed in a perfectly dry room, and immediately packed, with great pressure, into receptacles and sealed air tight, to prevent as nearly as possible loss of ammonia.

II.

Ammonium carbonate, clear pieces	av.oz. ½
Tartaric acid	av.oz. 3¾
Sodium bicarbonate	av.oz. 4
Starch	av.oz. 4

Prepare like the preceding.

See also "Cream Tartar Baking Powder."

Baking Powder, Cream Tartar.

I.

Cream of tartar, pure	av.lb. 1
Sodium bicarbonate	av.oz. 8
Starch	av.oz. 8

II.

Cream of tartar, pure	av.oz. 24
Sodium bicarbonate	av.oz. 12
Milk sugar	av.oz. 4
Starch	av.oz. 4

III.

Cream of tartar	av.oz. 23
Sodium bicarbonate	av.oz. 10
Tartaric acid	av.oz. 1
Starch or flour	av.oz. 16

IV.

Cream of tartar	av.oz. 19
Tartaric acid	av.oz. 8
Ammonium carbonate, clear pieces	av.oz. 1
Sodium bicarbonate	av.oz. 17
Starch	av.oz. 7

Baking Powder, Phosphate.

"Acid phosphate of calcium" is the acid constituent of the "phosphate" baking powders. This may be prepared from bone ash by intimately mixing one av. pound with 6½ fluid-ounces of arsenic-free sulphuric acid (U. S. P. strength, using proportionarely more of a weaker acid) in an earthen dish, then add 1 pint of water, mix thoroughly and set aside for 3 days in a warm place, stirring frequently, occasionally adding more water to make up for that lost by evaporation. Then add a pint more of boiling water, pour all on a muslin strainer, gradually add more boiling water, until the liquid passes nearly tasteless, filter and evaporate to dryness.

To prepare the powder, mix

Acid phosphate of calcium	av.oz. 12
Sodium bicarbonate	av. oz. 8
Starch or flour	av.oz. 12

Baking Powder, Phosphate and Alum.

Acid phosphate of calcium	av.oz. 4
Ammonia alum, dried (burnt)	av.oz. 4
Sodium bicarbonate	av.oz. 6
Starch or flour	av.oz. 10

Baking Powder, Tartaric Acid.

I.

Tartaric acid	av.oz. 12
Precipitated chalk	av.oz. 8
Flour or starch	av.oz. 16

II.

Tartaric acid	av.oz. 8
Sodium bicarbonate	av.oz. 9
Starch or flour	av.oz. 10

III.

Tartaric acid.....av.oz. 7
Sodium bicarbonate.....av.oz. 8
Magnesium carbonate.....av.oz. 3
Starch or flour.....av.oz. 6

See also "All-Ready Baking Powder," "Alum Baking Powder," "Ammonia Baking Powder" and "Cream Tartar Baking Powder."

Barley Water.

Pearl barley.....av.oz. 1½
Distilled water.....fl.oz. 24

Wash the barley with cold water, and reject the washings; boil the washed barley with the distilled water for 20 minutes in a covered vessel, and strain. The product is about 16 fluidounces.

Bead Oil.

In the liquor trade, anything added to liquors to cause them to carry a "bead" and to hang in pearly drops about the side of the glass or bottle when poured out or shaken is called "beading," the popular notion being that liquor is strong in alcohol in proportion as it "beads." The object of adding a so-called "bead oil" is to impart this quality to a low-proof liquor, so that it may appear to the eye to be of the proper strength. The following formulas for "bead oil" are given:

I.

Sweet almond oil..... fl.oz. 1
Sulphuric acid, concentrated.....fl.oz. 1
Sugar, lump, crushed.....av.oz. 1
Alcohol.....sufficient

Triturate the oil and acid together in a glass, wedgewood or porcelain mortar, or other suitable vessel; add by degrees the sugar, continue trituration until the mixture becomes pasty, and then gradually add enough alcohol to render the whole perfectly fluid. Transfer to a quart bottle, and wash out the mortar twice or oftener with strong alcohol until about 20 fluidounces in all of the latter has been used, the washings to be added to the mixture in the bottle. Cautiously agitate the bottle, loosely corked, until admixture appears complete, and set aside in a cool place.

This quantity of "oil" is supposed to be sufficient for 100 gallons of liquor, but is more commonly used for about 80 or 85 gallons.

The liquor treated with this "oil" is usually allowed to become clear by simple repose.

II.

Sulphuric acid.....fl.oz. 2½
Alcohol.....pints 2

To 1 pint of alcohol, contained in a bottle, cautiously add the acid with agitation. In 2 or 3 hours add the remaining alcohol and again agitate. The mixture is fit for use in about a week.

This quantity is supposed to be sufficient for 80 gallons of liquor, preferably adding to the latter one-half gallon of simple syrup.

III.

Ether, sulphuric.....fl.oz. 8
Alcohol.....fl.oz. 32

This mixture may be used at once if desired. This quantity is supposed to be sufficient for 80 gallons of liquor, also preferably adding to the latter one-half gallon of simple syrup.

IV.

Soapwort, coarsely ground....av.oz. 13
Diluted alcohol, enough to make gal. 1

Extract the soapwort by maceration or percolation.

This is also intended for 80 gallons of liquor, preferably adding to the latter one-half gallon of simple syrup.

The ingredients of the above formulas are not injurious—not at least in the quantities required for "beading." It is said that beyond a certain degree of dilution of the liquor with water, these preparations fail to produce the intended effect. The addition of sugar or syrup increases their efficacy.

Beef Tea, Cold Prepared.

Beef, free from fat, and very finely chopped.....av.lb. 1
Sodium chloride.....gr. 60
Diluted hydrochloric acid, U. S. P.....drops 15
Distilled water.....sufficient

Macerate the beef for one hour with the sodium chloride, the acid, and 1 pint of distilled water, then strain through a cloth and wash the remaining beef, without pressing, with sufficient distilled water, so that 1 pint of product is obtained.

This preparation is far superior to that made by the application of heat. It was Liebig's suggestion to use hydrochloric acid. Any temperature above 55 degrees C. precipitates the albuminoids.

Liebig's broth for convalescents is practically the same as the above.

See also under "Peptonized Foods."

Butter Color.

There are many proprietary butter colors upon the market, but all are made in about the same manner, annatto or annattoine being the base. These preparations should preferably be made with oil, so as to color the butter and not the buttermilk. If water is used as a vehicle, it must be assisted in solvent action by an alkali or borax.

Annattoine mentioned in these formulas is purified annatto. A method of purification is given in Chapter IV., under "Solution of Annatto."

I.

Annatto seed, bruised	av.oz. 2
Turmeric	av.oz. ½
Ammonium carbonate	gr. 80
Cottonseed oil	fl.oz. 14
Lard oil	fl.oz. 2

Mix and boil, stirring frequently, until the proper rich color has been obtained; then strain, allow to settle and decant or filter.

II.

Annattoine	av.oz. ½
Cottonseed oil	fl.oz. 16

Reduce the annattoine to fine powder, mix intimately with the oil, heat the whole on a water bath for about 4 hours, and strain and filter.

The annattoine should be pure and the oil should be odorless.

III.

Extract of annatto	av.oz. 1½
Turmeric powder	av.oz. ¾
Logwood chips	gr. 160
Cottonseed oil, refined	fl.oz. 16

Heat the ingredients to nearly the boiling point, maintaining at this temperature, with frequent stirring, for half an hour. Set aside for three days, when the clear oil may be decanted from the compact sediment.

IV.

Annatto, powder	av.oz. 3
Cottonseed oil	pint 1

Mix, heat to 212 deg. F. for some time, set aside for about 24 hours, strain, and filter.

V.

Annattoine	av.oz. 5
Turmeric, powder	av.oz. 6
Saffron, Spanish	av.oz. 1
Lard oil, odorless	fl.oz. 16
Alcohol	fl.oz. 4

Rub the annattoine and turmeric with the oil, which may be deodorized by filtration through charcoal, and macerate for several days. Prepare a tincture with the alcohol and saffron. After a sufficient maceration, separate the solids from the oil by filtration, adding more oil through the filter, to keep the measure, and mix the tincture of saffron with this, driving off the alcohol by a gentle heat.

VI.

Ethereal extract of annatto	gr. 140
Olive oil	fl.oz. 16

Dissolve and fill into amber-colored bottles.

The first-mentioned ingredient is obtainable in the market.

VII.

Annatto	av.oz. 1½
Potassium carbonate	av.oz. 1½
Boric acid	gr. 90
Water	enough to make fl.oz. 16

Cut the annatto into small pieces and pour upon it the potassium carbonate dissolved in 8 fluidounces of boiling water. Let stand for 2 or 3 hours, stirring occasionally, add 16 fluidounces of water and boil the whole until reduced to about 16 fluidounces. Add the boric acid, set aside for a day or two, and filter.

VIII.

Annatto, purified	av.oz. 1½
Potassium or sodium hydrate	gr. 96
Borax	gr. 64
Tincture of turmeric	fl.oz. 3
Water	fl.oz. 14

Heat the annatto, alkali and borax with the water on a water bath for ½ to 1 hour, stirring frequently, occasionally adding water to replace that lost by evaporation, allow to cool, add the tincture, filter, and add, if necessary, enough water through the filter to make the filtrate measure 16 fluidounces.

Cheese Color.

The butter colors made without oil—see "Butter Color," Nos. VII. and VIII.—may be used for coloring cheese. Butter color No. VI. may also be employed.

Chow-Chow.

Savory	gr. 15
Thyme	gr. 15
Mace	gr. 15
Pimento	gr. 30
Coriander	gr. 30
Black pepper	gr. 60
Celery seed	gr. 60
Capsicum	gr. 60
Turmeric	av.oz. 1
Ginger	av.oz. 1½
Curry powder	av.oz. 2
Mustard, powder	av.oz. 3
Vinegar, good	gal. 1

Mix all together and let simmer in a covered vessel, over a slow fire, for 3 hours. The pickles should be scalded or slightly parboiled with boiling salt water, and the spiced vinegar poured over them while still warm.

Cider Preservatives.

Calcium sulphite (sulphite of lime) is now being largely used by professional cider makers to prevent fermentation in cider. About one-eighth to one-quarter of an ounce of the sulphite is required for one gallon of cider. It should first be mixed with a small quantity of cider, then added to the bulk, and the whole agitated until thoroughly mixed. The barrel should then be bunged and allowed to stand for several days, until the action of the sulphite is exerted. It will preserve the sweetness of cider perfectly, but care should be taken not to add too much, as that will impart a slight sulphurous taste.

Salicylic acid is also used as a preservative, and by some is considered superior to calcium sulphite. About one part of acid to two thousand of cider is said to be the proper proportion. It should be first dissolved in a very small quantity of alcohol, then added to the cider and thoroughly mixed. It must not be forgotten, however, that salicylic acid is much more deleterious to the system than calcium sulphite.

Confectionery Colors.

Any of the colors enumerated in Chapter IV. may be employed satisfactorily for tinting confections.

Colors for Culinary Purposes.

For coloring different articles in the kitchen, such as cakes, fruit, etc., any of the colors mentioned in Chapter IV. may be employed.

See also "Butter Color," "Cheese Color," "Confectionery Colors," and "Sugar, Colors for."

Curry Powder. (Pulvis Aromaticus Indicus.)

These should be prepared from the best materials, reduced to fine powder, be well mixed, and preserved in well-closed vessels.

I.

Coriander	av.oz. 3
Curcuma	av.oz. 1
Pepper	av.oz. ½
Poppy seed	av.oz. ¾
Garlic	av.oz. 4
Cinnamon	av.oz. ¼
Cardamom	gr. 60
Cloves	gr. 60
Capsicum	gr. 60
Cocoanut, desiccated	av.oz. 8

Mix, and reduce to fine powder.

II.

Coriander	av.oz. 4
Turmeric	av.oz. 4
Cassia buds	av.oz. 2
Fenugreek seed	av.oz. 2
Poppy seed	av.oz. 2
Mustard	av.oz. 1
Ginger	av.oz. 1
Capsicum	av.oz. ½
Pimento	av.oz. ½
Garlic	av.oz. ½
Cocoanut, desiccated	av.oz. 4

Reduce all to fine powder, mixing thoroughly.

III.

Turmeric	av.oz. 7
Coriander	av.oz. 4
Fenugreek	av.oz. 2
Black pepper	av.oz. 1¾
Capsicum	gr. 150
Caraway	gr. 150
Ginger	gr. 150
Pimento	gr. 150
Mustard	gr. 150

Reduce all to fine powder, mixing thoroughly.

IV.

Coriander	av.oz. 18
Fenugreek	av.oz. 4
Turmeric	av.oz. 3
Cumin seed	av.oz. 3
Black pepper	av.oz. 2
Capsicum	av.oz. 1

V.

Coriander	av.oz. 4
Turmeric	av.oz. 4
Cassia buds	av.oz. 2
Fenugreek	av.oz. 2
Ginger	av.oz. 1
Cumin seed	av.oz. ½
Pimento	av.oz. ½
Capsicum	av.oz. ½

Prepare like the preceding.

VI.

Coriander	av.oz.	8
Turmeric	av.oz.	6
Black pepper	av.oz.	4
Ginger	av.oz.	2
Fenugreek	av.oz.	2
Capsicum	av.oz.	½
Cumin seed	av.oz.	½

All should be in powder, and the whole should be well mixed.

VII.

The following is said to be the formula of Dr. Kitchener's celebrated curry powder:

Coriander seed	av.oz.	3
Turmeric	av.oz.	3
Black pepper	av.oz.	1
Mustard	av.oz.	1
Ginger	av.oz.	1
Pimento	av.oz.	½
Cardamom	av.oz.	½
Cumin seed	av.oz.	¼

Reduce to a fine powder, mix thoroughly, and preserve in well-stoppered bottles.

VIII.

Coriander	av.oz.	6
Cumin seed	av.oz.	2
Turmeric	av.oz.	4
Ginger	av.oz.	½
Cayenne	av.oz.	½
Mustard	av.oz.	¼
Fenugreek	av.oz.	¼

Reduce to a fine powder, mix thoroughly, and preserve in well-stoppered bottles.

IX.

Coriander	av.oz.	6
Cinnamon bark	av.oz.	3
Black pepper	av.oz.	2½
Pimento	av.oz.	2
Capsicum	av.oz.	1½
Cardamom	av.oz.	1½
Ginger	av.oz.	1½

Prepare like the preceding.

X.

Capsicum	gr.	16
Nutmeg	gr.	32
Garlic	gr.	32
Cinnamon	gr.	64
Cumin seed	gr.	64
Black pepper	gr.	200
Turmeric	av.oz.	¾
Poppy seed	av.oz.	¾
Coriander	av.oz.	2½
Ginger	av.oz.	3½
Cocoanut, grated	av.oz.	16

Prepare like the preceding.

Egg Powder.

Egg powder is, in effect, baking powder colored yellow with some harmless pigment. It may be made by mixing

Tartaric acid	av.oz.	4
Sodium bicarbonate	av.oz.	6
Starch	av.oz.	6
Turmeric, powder	gr.	30

The ingredients should be perfectly dry, and mixed intimately.

Eggs, Preservation of.

Lime and water should be mixed in the proportion of 1 pound of the former to 1 gallon of the latter. When the lime has slaked and the mixture has cooled, the eggs, perfectly fresh, should be added to it. The vessel containing the eggs and lime mixture should be a barrel, cask, etc., and should be kept in a cool, well-ventilated place.

It is important to have considerable excess of lime to replace any that may become carbonated. The mixture excludes air and any germs which may cause mildew or mold, and prevents evaporation, so that the contents of the eggs are not reduced in bulk.

A successful variation of the above process is to imbed newly-laid eggs, warm from the nest, into a thick paste of lime and water.

Other egg preservatives are coating the eggs with petrolatum, solution of sodium silicate, shellac dissolved in borax and water, etc., or to immerse in paraffin oil, strong salt water, or a mixture of 1 part of borax with 3 of charcoal.

The following has been recommended:

Lime	av.lb.	1
Salt	av.lb.	1
Saltpeter	av.oz.	3
Water, warm	gal.	1

Mix, and when cold put in the eggs, small end downwards.

Flaxseed Lemonade.

Flaxseed, whole	tablespoonfuls	4
Water, boiling	pints	2
Juice of 2 lemons,		
Sugar	to sweeten	

Put the flaxseed in a pitcher, pour on the boiling water, cover the vessel, and steep for 3 hours. When cold add the lemon juice and sugar. If too thick, thin with cold water.

Infants' Foods, "Prepared." ("Baby Foods."—"Invalids' Foods.")

"Prepared" farinaceous foods for infants and invalids are made by the following methods:

1. Application of heat alone.

2. Digestion with malt or diastase, combined with heat.

3. Dextrination with subsequent evaporation with milk or cream.

These foods are given in water or milk.

The various infant foods are nearly all prepared according to one of the processes here given.

1. Farinaceous Foods, Prepared by Heat Alone.—These are the so-called Farinaceous Foods. Wheat, oats and barley are sometimes prepared by roasting (not steaming), a process which produces chemical changes in the fats and starch, the latter being changed to dextrins.

Starr's process, suitable for family purposes, is as follows: Tie one pound of unbolted wheat flour firmly in a pudding bag, suspend in water, and heat water to boiling for 10 hours, occasionally replacing the water lost by evaporation. At the end of this time it will be found on opening the bag that the outer layer of the ball is doughy, while the interior is hard and dry, it having been baked by the long-continued heat. This hard mass may be used for infant feeding, beginning during the last part of the first year.

To use it, reduce to powder, rub one teaspoonful of the latter with a tablespoonful of milk to a smooth paste, then add a second tablespoonful of milk, rubbing until a cream-like mixture is obtained. Pour this into 8 fluidounces of hot milk, stirring well, when it is ready to use. This mixture is quite digestible, the modified flour preventing the formation of large curds of milk.

The German pharmacopœia of 1872 recognized a similar preparation under the name Prepared Barley Flour, which was directed to be prepared by packing barley flour into a well-tinned vessel until the latter is not over two-thirds full, then closing the vessel tightly, and heating on a steam bath for thirty hours. Every 10 hours the can should be opened, the contents mixed by stirring, and then repacked as firmly as possible.

A slightly different method is to close the can by soldering, immersing in hot water, and boiling the latter.

A method recommended by Hager is to fill an earthen vessel two-thirds full of barley flour, packing it firmly, paste on a cover of pasteboard, and bake in an oven for 15 to 20 hours. If the flour has not been sufficiently converted at this time, as is indicated by the color—it should be yellowish or pinkish gray—it should be heated for several hours longer. The vessel should not be placed in the oven so that it will burn or roast too strongly. The product should be powdered and passed through a fine sieve.

These processes give a yield of about 90 per cent.

2. Farinaceous Foods, Prepared by Digestion with Malt or Diastase with Heat.—A food prepared in this way is known as Liebig's Food. These foods are made of equal parts of wheat flour and barley malt, with bran, and 1 per cent of potassium bicarbonate. These are made into a paste with water, and heated for several hours until the starch is transformed to maltose and dextrin. It is then strained, expressed, extracted by washing with warm water, evaporated, dried, and pulverized, when it is ready for use.

These foods contain digested starch or maltose and dextrin and the albumens of the wheat, barley, and bran.

See also "Milk Food or Soup, Liebig's."

3. Farinaceous Foods, Prepared by Dextrination and Subsequent Evaporation with Milk or Cream.—These are commonly known as Milk Foods. They are prepared somewhat as follows: Wheat or other flour is made into a dough, baked well, ground, mixed with more or less condensed milk or cream, and then evaporated in a vacuum apparatus to dryness. Or a food is prepared like Liebig's, milk or cream added, and evaporated as before. By the addition of malt or diastase, the starch is partially converted into dextrin and maltose, and the albuminoids are rendered slightly more soluble.

A "milk food," somewhat different from the preceding, is prepared as follows:

Butter, fresh	av.oz. 2
Cream, pure and fresh	fl.oz. 2
Sugar	av.oz. 2
Eggs	2
Wheat starch	av.oz. 1
Wheat flour	av.oz. 6
Potassium chloride	gr. 15
Sodium chloride	gr. 15
Ammonium carbonate, powder	gr. 30
Milk	sufficient

To the melted butter, add the cream, sugar and eggs, the latter beaten to a froth; mix well and add the starch, flour, chlorides, ammonium carbonate, and a sufficient quantity of milk to make a dough, put in molds or pans and bake at a moderate heat. When done, cut the cake into slices, dry and powder.

Other foods for infants are herewith given.

Dr. Oppenheim, in New York Medical Journal, recommends the following: Mix a full teaspoonful of wheat flour thoroughly with half a cupful of cold water, to this add 12 fluidounces of boiling water, and boil for 10 minutes in a double boiler. Remove the inner vessel and add to the mixture another 12 fluidounces of cold water, as well as a half teaspoonful of good extract of malt. Allow to stand for 15 minutes to permit the diastase to act upon the starch. Replace the vessel in the boiling water and boil again for 15 minutes to destroy the diastase and prevent further action. This mixture, after being strained, should be added to an equal quantity of fresh milk. The proportion of milk may be altered to suit.

The following is employed in the Post Graduate Hospital of New York City: Make a gruel of 1 quart of water and 10 ounces of wheat flour or barley meal, boiling 10 minutes in a double boiler. Then take out the inner vessel and add 1½ pints of cold water, about ½ teaspoonful of good extract of malt being added to the last few ounces. Let it stand 15 minutes, then put the inner into the outer vessel of the boiler, boil for 15 minutes and strain through coarse cloth or a fine sieve. This is used as a diluent for milk, being preferred to simple barley water.

WHEAT PHOSPHATES.—Dr. Tilburn Fox has recommended the phosphates as found in bran of wheat as an excellent addition to ordinary starchy foods for infants. These may be prepared as follows:

Wheat bran, dust free	av.lb. 1
Water	pints 6
Sugar	sufficient

Mix the bran and water, boil until the liquid is reduced to 4 pints, being careful not to burn the bran, and strain while hot, with pressure. Transfer the liquid to a water bath, evaporate as quickly as possible, with stirring, until of the consistency of soft extract. If evaporated slowly, it may become sour. Then allow to dry slowly over the water bath until reduced to a readily pulverizable mass, reduce to fine powder, mix intimately with 8 times its weight of powdered sugar, and pass through a fine sieve.

One pound of bran usually yields 4 ounces of extract.

See also "Milk, Malted," "Milk Food or Soup, Liebig's," "Milk, Peptonized," "Milk Powder," "Milk for New-Born Infants," "Milk (Cow's), Dilution of, in Infant Feeding," "Milk Substitute for Infants," and "Milk, Human, Artificial."

Kola Chocolates.

Cocoa	av.oz. 10
Sugar, powder	av.oz. 11
Kola nuts, roasted	av.oz. 2½
Cacao butter	gr. 275
Vanillin sugar	gr. 60
Distilled water	fl.dr. 4 or sufficient

Mix the above together to form a uniform paste, cut into tablets and dry.

Kumiss and Kefir. (Fermented Milk.—Milk Wine.—Lac Fermentatum.)

In different portions of the world, particularly in the farther East, different preparations of milk, made by fermentation, are used as beverages. The processes have found their way westward and are used in more or less modified forms in Europe and this country.

Kumiss. (Also spelled kumys, koumiss, kumyss, komitz, koumys, koumyss, coumiss, etc.)

This is the best known of these drinks in this country. The original kumiss is used on the steppes of Tartary and in Russia, and

is made from mare's milk. In this country it is made from cow's milk, and the latter should be so altered that its constituents will be about the same as mare's milk. The best and truest modification is that of formula No. I. below. Mare's milk has much less cream and casein, and more milk sugar, than cow's milk, hence the use of skimmed milk, the subtraction of casein and addition of water, as well as the addition of milk sugar.

The sugar is added that alcoholic fermentation may take place more readily. There are really two fermentations, alcoholic and lactic, and both contribute to the value of the beverage.

In this country the fermentation is started with yeast, but in Tartary it is started with kumiss ferment, which is propagated from one lot of kumiss to the next.

The fermentation requires a moderate temperature of some hours for its development. This temperature must not be too high, as then the fermentation takes place too rapidly, and the casein will be precipitated in thick curds. If the fermentation occurs at about 22 degrees C. (70 degrees F.), the clots will be less dense and can be broken readily by agitation. The fermentation should be allowed to proceed for 12 to 24 hours, and the bottles should be agitated frequently during this time to break the curd and have the casein in a finely-divided condition. After this time the bottles should be put in an ice-box, so the temperature will be below 13 degrees C. (55 degrees F.). This temperature prevents active fermentation, but fermentation will not cease entirely, the liquid becoming more and more acid from formation of lactic acid until finally it becomes unfit for use.

Kumiss should be bottled in stout bottles; champagne pints and quarts are usually selected. These should be filled to within 3 or 4 inches of the top, closed with straight wine corks of suitable size which have been soaked in lukewarm water, and then tied over securely with twine like magnesia bottles, or they may be wired over.

Kumiss is distinguished according to age by the terms "new," "medium" and "old." The first is not more than 3 or 4 days old, and has comparatively little acid; the second is moderately acid, and the third is the oldest and the most acid.

Kumiss should be drawn from the bottles by means of a champagne tap. When served at the "soda" counter the requisite amount should be drawn into a pitcher, the liquid Poured back and forth from it to a glass, and when the gas has been mostly expelled in this manner, the beverage may be served (usually in an 8-ounce glass).

Some brands of kumiss are said to be prepared by mixing milk, skimmed or unskimmed, with such substances as whey, sugar, milk sugar, sodium bicarbonate, sodium chloride, alcohol, etc., and charging with carbonic acid gas like "soda" water.

I.

Milk, whole, fresh	gal. 3½
Milk, skimmed	gal. 7
Water	gal. 1½
Sugar, granulated	av.lb. 2½
Milk sugar	av.lb. ½
Yeast, compressed, best, av.oz. ⅛, or about ¼ package.	

Heat the skimmed milk to 90 to 100 degrees F. (32 to 38 degrees C.), without burning or scorching. It may be heated, if the conveniences are at hand or can be made, in a water or steam bath. Add one-third of the yeast, previously thoroughly incorporated with a small amount of milk, and keep the mixture at the directed temperature until the casein separates out into a thick mass. Pour off the whey, also straining the residual casein so as to obtain all the whey, and add it to the unskimmed milk. Then add the balance of the yeast, mixed, as before, with some milk, and then the sugars, first dissolved in the water. The containing vessel should be a cask of oak; a metal vessel should not be employed. The vessel should have a faucet, so the liquid may be drawn off into bottles.

The mixture, or kumiss, is now to be stirred every 5 or 10 minutes, so as to keep the casein suspended, while the liquid may be bottled.

When all the bottles are filled, soak some straight wine corks of the proper size in lukewarm water, drive these into the bottles by means of a bottling machine or a mallet, so

that they do not protrude more than ¼ of an inch above the lip of the bottle, and tie the bottles over with stout twine or wire.

The temperature of the room should be about 21 to 27 degrees C. (70–80 degrees F.). Shake the bottles once in 5 or 6 hours, and at the end of 12 to 18 hours, fermentation will have begun perceptibly; then place the bottles in an ice box. The temperature of the latter should always be below 13 degrees C. (55 degrees F.).

II.

Milk, fresh, unskimmed.....gal.	3½
Milk, fresh, skimmed.....gal.	7
Sugar.....av.oz.	44
Yeast, compressed, best, about av.oz. or ¼ package.	⅛

Prepare like the preceding.

III.

The following is the process of the National Formulary, the quantity given being intended for a champagne quart bottle:

Cow's milk, unskimmed, fresh.fl.oz.	24
Yeast, semi-liquid.....fl.dr.	¼
Sugar, granulated.....gr.	360

Dissolve the sugar in the milk, add the yeast, cork the bottle securely, keep at a temperature of 23 to 32 degrees C. (75 to 90 degrees F.) for 6 hours, and then transfer to a cold place.

The sugar may be replaced by 1 fluidounce of simple syrup.

IV.

Milk, skimmed.....gal.	1
Water, distilled, or "soft"....pints	2
Sodium bicarbonate.....gr.	100
Honey, pure, or sugar.....av.oz.	8

Heat the milk without burning, until a fairly tough pellicle forms upon its surface. Set aside for 12 hours, then remove the pellicle and other solid particles which may be on the surface of the liquid, add the water, the sodium bicarbonate, and the sugar or honey, and start the fermentation by adding to each gallon of mixture a pint of fairly new kumiss. Or start fermentation by using a mixture of a fluidounce of pure honey with 1 pint of water which has been allowed to ferment for 24 to 48 hours in a warm place. All of this mixture need not be employed, as less will start the fermentation. Bottle the liquid at once, cork and tie over in the usual manner, submit to a uniform temperature of about 27 degrees C. (80 degrees F.) for 12 to 24 hours, and then put in an ice box.

V.

Milk, cow's, fresh.....gal.	1
Water.....pint	1
Grape sugar.....av.oz.	1
Sodium bicarbonate.....gr.	120
Beer yeast.....oz.	¼

Mix, let the mixture stand in an open vessel, covered with a cloth, in a warm place (near the stove in winter), until the bubbles forming on the surface of the liquid, in consequence of the fermentation, begin to disappear. Then put the milk in an ice-box over night, or simply long enough to become completely cooled; then strain through gauze, put into bottles, cork the latter, tying over securely, and put into an ice-box. Shake frequently during the first 3 days. The kumyss will be ready for use at the end of this time, but should preferably be kept on ice for 8 to 10 hours longer.

VI. See also "Kefir-Kumiss" below.

Kefir. (Also spelled kefyr, kephir, kephyr, kapir, etc.)

This is also a fermented milk. It is prepared in Transcaucasia from cow's milk by fermentation with a special kind of ferment known as the kefir ferment, or "kefir grains," or "kefir seeds," (which is probably the same as the kumiss ferment). This may be propagated like yeast or similar ferments, and one lot of kefir may be used to infect milk to make a fresh lot of kefir. The kefir grains —the dry ferment occurs in "grains" of about the size of small shot—as purchased in this country, have been found to contain, besides moisture, fat, a peptone-like substance, and proteids, three kinds of micro-organisms, viz., Saccharomyces cerevisiæ Meyen, a bacterium which has been called Dispora caucasica, and a third organism, in small proportion, which is supposed to be Oidium lactis. The second organism forms the largest portion of the insoluble portion of the "grains."

In order that a good beverage may be prepared, the ferment should be of the proper kind, and it should be correctly handled. The dry ferment should have a yellowish, not a

greenish, color, and should, when soaked in water or milk for 4 or 5 hours, swell to 2 or 3 times its original bulk, be firm but elastic, should not break to powder, and should not form a smeary or greasy mass.

Kefir grains are sometimes adulterated with bread crumbs, dough, dry yeast, particles of hide or leather, etc.

Only the purest and best kefir grains should be employed to prepare the beverage, as any other may form a dangerous product.

In preparing kefir, first wash the grains by pouring upon them pure water of a temperature of 30 degrees C. (86 degrees F.) and let stand for 4 or 5 hours, by which time they will have swelled considerably, and will have risen to the surface of the water. Decant the liquid, and finish washing the grains by agitating several times with distilled water, and pouring off the liquid. Now add to the grains about 10 times as much milk, previously heated to boiling, and cooled to about 20 degrees C. (68 degrees F.), and set aside for 24 hours, agitating once during this time so as to mix the ferment which rises to the surface, with the milk. At the end of the 24 hours, and every 24 hours thereafter, remove the milk, wash the grains in pure water, and add boiled milk as before, agitating once during maceration. At the end of 5 to 7 days, the milk will have simply a sour-milk odor, the grains will have changed to a white color and will all rise to the surface of the liquid, having fully expanded or swelled. The ferment is now ready for use.

Kefir is prepared from these grains by adding to each pint of fresh cow's milk (whole or skimmed may be used, according to quality of beverage to be manufactured, the former to be preferred), previously heated to boiling, and cooled to 20 degrees C., a tablespoonful of the prepared kefir grains, let stand from ½ to 1 day, strain the sour liquid through gauze into stout bottles—champagne bottles may be used as for kumiss, or beer bottles with patent stoppers—cork the latter with suitable corks—see "Kumiss"—and tie securely in the usual manner. If bottles with patent stoppers are used the tying over will be unnecessary. The residue on the strainer, consisting of the kefir grains, may be used to make a new lot of kefir.

Place the bottles where the liquid will be at a temperature not to exceed 15 degrees C. (59 degrees F.), agitate every 2 or 3 hours, and in 1, 2, or 3 days, according to acidity, etc., desired, the liquid is ready for consumption. The one-day kefir has a very slightly acid taste, and contains small amounts of alcohol and carbonic acid; two-day kefir is sourer, is of creamy consistence, contains more alcohol and carbonic acid, and froths considerably. The older the beverage the more acidulous it becomes, the thinner in consistency, and the greater the effervescence. One and two day kefir is designated "weak" kefir, three and four day, "strong" kefir.

The kefir should lastly be placed in a refrigerator.

The details given in the above as to temperature, manipulation, etc., must be studiously followed out, since at a more elevated temperature the lactic fermentation will exceed the alcoholic, while at from 15 to 20 degrees C. the formation of alcohol and carbonic acid is proportionately increased with a minimum production of butyric acid. The frequent shaking is necessary, in the first place to bring into closer contact the ferment and the milk, as well as to prevent undue formation of lactic acid locally, thus rendering fermentation more regular, and preventing subsequent production of acetic and butyric acids; secondly, a finer division of the casein is thereby insured.

Boiling the milk is directed, not alone for the purpose of dissipating the raw, animal taste characteristic of fresh milk, and disagreeably noticeable in the finished kefir, but it is also meant to destroy whatever microorganisms may be present, notably tubercle bacilli derived from unhealthy cows. Boiled milk by many is believed to be more digestible, it more closely resembles mother's milk, is less prone to sour, and is precipitated in much finer floccules by acids as well as pancreatic fluid. These differences of behavior may well be explained by the conversion of the casein and albumen into hemialbumose.

The utmost cleanliness in utensils, etc., should be observed.

A more simple and convenient method of inducing kefir fermentation in milk consists

in adding already prepared kefir, and the process will be finished in proportion to the quantity and age of the latter. By mixing, for instance, in equal proportions in a bottle, and corking well, the resulting beverage, after 15 to 18 hours at the utmost, will, in quality, stand about midway between one-day and two-day kefir. Less than 25 per cent should never be added; in this case some three days will be required. Manipulation and conditions must otherwise be the same as if made with seeds. Producing kefir in this manner is considered by many observers not advisable.

Good kefir resembles in appearance fresh milk, its taste is pleasantly acid and refreshing, and is strongly effervescing. Kefir can not be kept, excepting in a refrigerator, but must be consumed as soon as finished. It is best not to use it when more than four days old, as after that the amount of lactic acid becomes too great.

Attention should be called to the important fact that skim-milk, although largely used for the purpose, does not yield a product at all approximating kefir from fresh milk in any sense, and it is this that makes kefir far more nourishing than ordinary American kumiss prepared from skim-milk diluted with water or milk whey. Another distinctively advantageous feature of kefir is the presence of peptones, not to mention the objectionable presence of yeast ferment in ordinary kumiss.

The kefir grains, which are separated after preparing kefir, should be preserved with scrupulous care. They should be kept in milk, and at least twice a week they should be removed from the latter and washed first in pure water and then in ½ per cent solution of soda.

Kefir-Kumiss.

Under this name may be dispensed mare's milk or modified cow's milk fermented with kefir grains, or it may be whole milk fermented with the same medium. The beverages dispensed under this name, or the name kumiss, vary greatly in this country, according to the fancy of the manufacturer.

Leben. (Also written leban, laban, lebban, etc.)

This is fermented milk used by the Arabians. They start the fermentation in a fresh lot of leben by using leben of the preceding day in the proportion of 3 fluidounces to a pint of the best fresh milk. The milk should be slightly warmed at first, the mixture of milk and leben well stirred, and the whole set aside in a warm room in a pitcher covered with a wet cloth, for a time varying from 6 to 12 hours, according to the season or the temperature of the room. As soon as the milk thickens it should be put into a cold place (refrigerator) to prevent further fermentation.

It is of the consistence of thick cream and of a slightly acid flavor. The richer the milk the better the product. Enough of the leben is usually reserved to make a new lot the succeeding day.

If it is desired to make leben, ordinary brewer's or baker's or compressed yeast may be used. The fluid yeast should be added to good milk in the proportion of 1 fluidounce to a pint. Allow the leben to form as above directed; then preserve three teaspoonfuls, and with this start fermentation in a pint of fresh milk. Continue this fermentation for about five successive batches, when the taste of yeast will have disappeared and the leben will have become eatable.

Leben should be eaten with a spoon, not drunk, and preferably with some bread broken into it. Many persons will find it more to their taste to sweeten it with sugar, and perhaps to add flavors, which do not detract from its digestibility.

Matzoon.

This is an Armenian beverage prepared from milk. Just how it is prepared is not known, nor is it known whether or not the American article is a counterpart of the Armenian.

American matzoon is a thick, curdy liquid, containing the casein in a coarsely granular form, is devoid of gas, is but slightly acid, and appears not to have undergone alcoholic fermentation. The bottles are opened by simply drawing the corks; no gas is emitted.

It may have been prepared like kumiss or kefir, stopping the fermentation after one or two days, and expelling the gas; or, what is more likely, it may have been prepared like leben, then churning or beating with an egg-beater or similar instrument to break up the

curd, and bottling in 12 and 24-ounce bottles. It may also have been prepared by making a curd of milk by adding rennet, and churning the curd to a semi-liquid condition.

Kumiss, Malted.

Milk, fresh	fl.oz. 21
Malt extract	fl.oz. 3
Yeast, compressed, fresh	gr. 40
Sugar	gr. 20

Mix yeast and sugar, add to milk and malt extract previously mixed in a bottle, cork, and tie latter over securely, put in a place where the temperature is about 21 to 27 degrees C. (70 to 80 degrees F.), for 24 hours, shake every 5 or 6 hours, and then put in an ice box.

This preparation must be made in small amounts, as it does not keep well.

Kumiss, Peptonized. (Kumissized Peptones.)

Milk, skimmed	pints 2
Water	fl.oz. 8
Pancreatin, pure	gr. 6
Sodium bicarbonate	gr. 24

Heat the milk, without burning or scorching, until a fairly tough pellicle forms, set aside for 12 hours, remove the pellicle as well as any other solid matter which may be on the surface of the liquid, then add the pancreatin and sodium bicarbonate, keep the whole at a temperature of 38 degrees C. (100 degrees F.), for ½ hour, stirring frequently. At the expiration of this time raise the temperature quickly to the boiling point, and set aside to cool.

Prepare from this the kumiss as given under Kumiss, No. IV., adding no further sodium bicarbonate. The originator of this beverage omitted the water.

Pepsin may replace the pancreatin; in this case the action of the ferment must be allowed to proceed for 2 hours, and the sodium bicarbonate must not be added until then.

Leben Salz.

This is a preparation used in some portions of Europe by dyspeptics, who sprinkle it upon their food. Its composition is as follows:

Sodium bicarbonate	per cent 90.40
Sodium chloride	per cent 2.00
Sodium sulphate	per cent 1.10
Sugar	per cent 3.26
Aromatics	per cent 3.24
	Per cent 100.00

Linseed Tea.

The following is an acceptable mode of preparing the above:

Linseed, whole	av.oz. 1
Sugar	av.oz. 1
Licorice root	av.oz. ½
Lemon juice	fl.oz. ½
Boiling water	pints 2

Macerate in a warm place for several hours and pour off clear.

Meat Biscuits.

Wheat flour	parts 3
Fresh, lean beef, minced and pulped	parts 2

Mix intimately by kneading, make into small rolls and bake the pieces lightly in a moderately heated oven.

Mutton may be substituted for the beef. It should be free from fat or skin. The meat may be pulped by laying on a board and scraping with a knife.

The biscuits may be salted, sweetened, or seasoned to taste.

They are used in dyspepsia, diarrhœa, fevers, etc.

Meat Preservatives.

Dr. E. Polenske has examined, physically and chemically, a number of preparations of the market intended for preserving meat and similar articles such as sausage, and has published the following report:

No. 1.—An almost colorless, transparent liquid of a strong, sulphurous odor, of a specific gravity 1.038 at 20 degrees C., and each pint contains

Calcium oxide	gr. 79
Sulphurous oxide (SO_2)	gr. 331
Iron and aluminum oxides	gr. 2.7
Silicic acid and alkalies	gr. 3.6

The liquid therefore was practically an impure calcium bisulphite in solution. This may be prepared by dissolving lime in sulphurous acid, or passing sulphur dioxide into milk of lime.

No. 2.—This was similar to the preceding in composition but stronger so that it was almost crystalline and contained separated crusts of calcium sulphite.

No. 3.—A faintly opalescent, odorless liquid of acid reaction, sp. gr. 1.0605 at 20 degrees C. One pint was found to contain about

Potassium nitrate	gr. 240
Boric acid	gr. 196
Glycerin	fl.dr. 4½

The preservative may be prepared by dissolving these substances in enough water to make one pint.

No. 4.—An odorless mixture of salts, having an alkaline reaction. Its composition was found to be

Borax	per cent 48.40
Water of crystallization	per cent 39.00
Sodium chloride	per cent 3.44
Sodium bicarbonate	per cent 9.10

A mixture of 27 parts of powdered borax, 1 part of table salt, and 3 parts of sodium bicarbonate will make a very similar article.

No. 5.—A moist powder of acid reaction which was found to contain

Potassium nitrate	per cent 57.35
Boric acid	per cent 28.34
Sodium chloride	per cent 9.58
Water	per cent 4.50

A mixture of 1 part of table salt, 3 parts of boric acid and 6 parts of potassium nitrate will make a very similar article.

No. 6.—A moist, white powder of a weak acid reaction. It was found to consist of

Potassium nitrate	per cent 37.8
Boric acid	per cent 29.7
Sodium chloride	per cent 26.7
Water	per cent 5.5

A mixture of 9 parts of potassium nitrate, 7 parts of boric acid and 6 parts of sodium chloride will make a very similar product.

No. 7.—A yellowish liquid of an acid reaction, an empyreumatic odor similar to tar water, and of sp. gr. 1.049 at 15 degrees C. A pint was found to contain

Potassa alum	gr. 516
Potassium nitrate	gr. 165

A solution of these salts in enough tar water to make one pint will furnish a very similar article.

No. 8.—A thickish fluid, almost colorless, slightly opalescent, of acid reaction and sp.gr. 1.0995 at 20 degrees C. One pint was found to contain about

Boric acid	gr. 380
Salicylic acid	gr. 166
Sodium chloride	gr. 134
Sodium oxide	gr. 52.5
Glycerin	fl.oz. 3¼

The sodium was combined with the salicylic acid.

The preparation was sold under the name Wickersheimer's Preservative Fluid for Food Products.

A very similar preparation may be made by dissolving 380 grains boric acid, 134 grains sodium chloride and 205 grains sodium salicylate in 3¼ fluidounces of glycerin and enough water to make one pint.

No. 9.—This is a mixture of 20 parts of salt, 2 parts of borax and 3 parts of potassium nitrate.

No. 10.—This was found to be a mixture of sodium sulphite and sulphate with some organic coloring matter.

No. 11.—This was found to be merely powdered borax.

Nos. 12 and 13 were found to be sodium bisulphite.

No. 14 was found to be a mixture of

Borax, small crystals	parts 80
Boric acid, crystals	parts 17
Sodium chloride	parts 3

No. 15 was found to consist of

Sodium sulphite	parts 4
Sodium sulphate	part 1
Sodium carbonate	a trace

When fresh, this was no doubt simply sodium sulphite.

Milk for New-Born Infants.

The following has been recommended by Prof. Parvin:

Milk	fl.oz. 4
Cream	fl.oz. 1½
Water	fl.oz. 5
Milk sugar	gr. 15

All ingredients should be of the best and freshest.

The mixture may be sterilized as described under "Sterilization of Milk."

Milk (Cow's), Dilution of, in Infant Feeding.

George Smith, F. C. S., in the Pharmaceutical Journal, recommended the following diluted and modified cow's milk as an infant food:

Oatmeal, finely ground.....av.oz.	¼
gradually increased to... .av.oz.	½
Butter, fresh.....gr.	60
Milk sugar.....gr.	120
Cow's milk, fresh.....fl.oz.	6
Water, pure.....fl.oz.	4
Salt.....gr.	5

Mix gradually the water with the oatmeal, sugar and salt, so that no lumps are found in the mixture, then add the milk and butter, and heat to the boiling point in a clean enameled or porcelain vessel. The product should be made up to the measure of 8 fluidounces, if necessary.

The object of the dilution and modification is to make a product which approximates, as nearly as possible, human milk, the chemical analyses of milks by Prof. Frankland being the basis of the suggestions.

The oatmeal is introduced as a useful attenuant, and it acts as a laxative; it is also useful as a fat and heat producer.

The milk should be sterilized as described under "Sterilization of Milk."

Milk Food or Soup, Liebig's.

Wheat flour.....av.oz.	1
Malt flour (freshly made from malt).....av.oz.	1
Potassium bicarbonate..... .gr.	15
Water.....fl.oz.	2
Cow's milk .....fl.oz.	10

Mix the first four ingredients thoroughly, then add the milk, put on a gentle fire until the mixture begins to thicken; remove from the fire, stir for 5 minutes, heat again, stir until it becomes quite fluid, and then bring to a boil; after separating the bran, it is ready for use.

Milk, Human, Artificial.

I.

Dried egg albumen.....gr.	230
Sweet almond oil.....fl.dr.	10
Milk sugar.....gr.	610
Sodium bicarbonate.....gr.	6
Sodium chloride.....gr.	3
Calcium phosphate.....gr.	4
Water.....enough to make fl.oz.	32

Mix, making an emulsion.

II.

Milk, fresh and whole.....fl.oz.	12
Cream .....fl.oz.	1
Water, pure .. ..fl.oz.	8
Milk sugar.....gr.	380

Dissolve the sugar in the water and add all together.

This mixture should be sterilized as described under "Sterilization of Milk."

III.

Milk, fresh.....fl.oz.	12
Water, pure.....fl.oz.	4
Cream, fresh.....fl.dr.	2 to 2½
Milk sugar.....gr.	250
Salt.....gr.	7

Dissolve sugar and salt in the water and add the remaining ingredients.

Recommended by Dr. Dufour, La Normandie Medicale.

This should be sterilized like the preceding.

Milk Jelly.

Cow's milk, fresh.....pints	2
Sugar..... av.lb.	1
Gelatin.....av.oz.	1
White wine.....fl.oz.	7
Juice of 3 or 4 lemons.	

Mix the milk and sugar and heat carefully until reduced to 39 av. ounces in weight. Dissolve the gelatin in the white wine by first macerating and then applying a gentle heat, add the milk mixture, allow to cool somewhat, add the lemon juice, mix well, and pour the mixture in suitable vessels to solidify.

Milk, Malted.

The following has been recommended: To a pint of good cow's milk add one tablespoonful of malt, previously ground finely in a coffee mill. The mixture should be warmed gently for 15 minutes, after which it should be boiled for 10 minutes which will check the further action of the malt, and then strain.

Milk thus treated does not form large, hard clots in the stomach, and agrees with many persons who cannot digest milk in its ordinary condition.

This preparation is preferred by many to milk peptonized with pancreatin or its preparations.

Milk, Peptonized.

Peptonized cow's milk, or milk which has been partially digested by artificial means, is frequently employed as an infant or invalid food; the peptonizing agent is pancreatin, in the presence of an alkali, sodium bicarbonate being preferred. The following is the process of Prof. Leeds:

Cow's milk, fresh	fl.oz. 4
Water	fl.oz. 4
Rich cream	fl.oz. 1
Milk sugar	gr. 200
Pancreatin, pure (or "extract of pancreas")	gr. 1¼
Sodium bicarbonate	gr. 4

Put this mixture into a nursing bottle, shake so as to incorporate thoroughly, place the bottle in water made so warm that the hand can not be held in it for longer than one minute (about 100 degrees F.), keep the milk at this temperature for 20 minutes. If more is prepared than is required at time of making, the excess should be placed on ice.

The National Formulary recognizes a mixture of pancreatin and sodium bicarbonate under the name Compound Pancreatic Powder, or Peptonizing Powder, which is to be used for peptonizing milk. It is composed of 5 grains of pure pancreatin and 20 grains of sodium bicarbonate. If pancreatin is used in this mixture it should have a definite strength; if weaker (see N. F.), a larger amount, proportionately, should be employed.

The directions of the National Formulary for peptonizing are slightly different from those of Prof. Leeds: Add the above mixture of peptonizing powder to 4 fluidounces of tepid water contained in a suitable flask, and afterwards add 1 pint of fresh cow's milk previously heated to 100 degrees F. (38 degrees C.). Maintain the mixture at this temperature for 30 minutes, then transfer to a cold place.

The peptonization must not be carried too far, as then bitter products are formed. For this reason the mixture should be put at once in a cold place to prevent further action of the ferment. Sometimes it is recommended to bring the mixture to a boil before cooling, so as to destroy the ferment.

Milk thus peptonized should not be used after it has developed a bitter taste (in about 24 hours).

The first process has an advantage in that milk sugar and cream are used. The mixture of pancreatin, milk sugar, and sodium bicarbonate as there given is the composition of a well-known "milk powder" of the market.

The peptonized mixture of milk and cream so nearly resembles human milk, according to Prof. Leeds, that he has called it humanized cow's milk.

Heat is not absolutely necessary for the preparation of peptonized milk. The milk may be diluted with half its volume of lime water, pancreatin added in the proportion of 5 grains to the pint of milk, and the mixture allowed to stand for 3 or 4 hours, with occasional stirring, at the ordinary temperature.

See also "Peptonized Foods."

Milk Powder, Scharlau's.

Ferrous sulphate, pure crystal	gr. 1
Sodium chloride	gr. 2
Calcium lactate	gr. 5
Sodium bicarbonate	gr. 8
Sodium phosphate	gr. 25
Milk sugar	av.oz. 1¼

The white of 1 egg is mixed with a pint of warm water, and to this is then added 1 tablespoonful of above powder. This mixture is intended to replace cow's milk.

The formula was originated some years ago in Germany.

Milk Substitute for Infants.

Dr. L. Rochester, M. D., has used with success the following, in cases when the mother's milk was insufficient in quantity, or when it was desired to wean the infant:

Yolk of 1 egg,	
Milk sugar	teaspoonfuls 6
Water, pure	fl.oz. 7

Dissolve the sugar in the water and add gradually to the egg-yolk, stirring constantly.

This is to be fed perfectly cold, in small quantities at a time, for 12 hours, gradually increasing the amount and lengthening the intervals, until finally the full amount is given four times in the 24 hours.

Mustard, Table. (Mustard Sauce.)

I.

French (Ravigotte):

Cloves	gr. 40
Garlic	gr. 40
Thyme	gr. 40
Tarragon	gr. 40
Parsley	gr. 80
Chervil	gr. 80
Chives	gr. 80
Salt	av.oz. ¾
Olive oil	fl.dr. 3
Vinegar, white wine	fl.oz. 11
Mustard, fine powder	sufficient

Cut or bruise the spices, macerate in the vinegar for 2 to 3 weeks, strain, and in the colature dissolve the salt. Rub up some mustard with the olive oil in a vessel set on ice, add the spiced vinegar, and then slowly work in enough mustard to make about 1 quart of mixture.

II.

French (Le Normand's):

Parsley, fresh	av.oz. ¼
Celery, fresh	av.oz. ¼
Chervil, fresh	av.oz. ¼
Tarragon, fresh	av.oz. ¼
Garlic	clove ½
Salt	av.oz. ½
Salt anchovies	6
Mustard, yellow, pure powder	av.lb. 1
Sugar,	
Water,	
Vinegar	of each, sufficient

Beat the parsley, celery, chervil, tarragon, garlic, and anchovies thoroughly, add the mustard and salt, sufficient sugar to sweeten to taste, and enough water to make a thick paste, triturating until smooth. Pour into pots, thrust a red-hot poker into each, and pour a small amount of vinegar over the top of the mustard.

III.

French (Burgundy):

Cloves	gr. 15
Mace	gr. 15
Pimento	gr. 15
Garlic	gr. 15
Tarragon	gr. 360
Capers	gr. 360
Salt, table	gr. 360
Sugar	av.oz. 1½
Mustard, black	av.oz. 10
White wine	fl.oz. 3½
Vinegar, good	sufficient

Macerate the mustard, in moderately coarse powder, with the wine and 6½ fluid-ounces of vinegar for 12 hours, triturate the mustard to a fine condition, and add 10 fluid-ounces of vinegar. Triturate the garlic with the sugar to very fine powder, add the other substances, previously reduced to very fine powder, and mix the whole.

IV.

German:

Onion	½
Garlic	gr. 15
Cloves	gr. 15
Cassia bark	gr. 15
Black pepper	gr. 75
Tarragon	gr. 150
Salt, table	av.oz. 1⅛
White mustard, coarse powder	av.oz. 4
Black mustard, coarse powder	av.oz. 6
Sugar	av.oz. 5
Vinegar, good	fl.oz. 16

Mix the cloves, cassia, pepper, and tarragon, reduced to fine powder, with the vinegar; triturate the onion and garlic with the sugar and salt to fine powder, incorporate with the vinegar mixture, allow the whole to remain exposed to the air in a vessel until the excessive sharpness has disappeared, stirring occasionally, and put into suitable receptacles.

The garlic and tarragon may be omitted if desired.

V.

German:

Onion	1
Garlic	gr. 15
Cloves	gr. 15
Cassia bark	gr. 15
Black pepper	gr. 15
White mustard, deprived of oil	av.oz. 3½
Black mustard, deprived of oil	av.oz. 5
Salt, table	av.oz. 1⅛
Sugar	av.oz. 5
Vinegar, good	fl.oz. 18

Mix the cloves, cassia, pepper, and mustards, previously reduced to fine powder, with the vinegar; reduce the onion and garlic with sugar and salt to very fine powder, incorporate with the previous mixture, and expose to the air like the preceding.

The garlic may be omitted if desired.

Mustard, Table, Powder for.

The following powders may be employed for making table mustard:

I.

Black mustard	av.oz. 4
White mustard	av.oz. 4
Sugar	av.oz. 2

Reduce all to fine powder, and mix well.

To prepare the sauce, mix well with 13 to 15 fluidounces of good vinegar, allow to stand in an open vessel until the mixture has acquired about the correct taste, stirring occasionally, and put into suitable vessels.

II.

Black mustard	av.oz. 3½
White mustard	av.oz. 3
Sugar	av.oz. 2¼
Salt, table	av.oz. 1
Tarragon	gr. 135
Black pepper	gr. 45
Cassia bark	gr. 35

Prepare the mixture and the sauce as in the preceding.

III.

Black mustard, deprived of oil	av.oz. 6
Sugar	av.oz. 1½
Tarragon	av.oz. ¾
Salt, table	av.oz. ¾
Pimento	gr. 30
Mace	gr. 15
Cassia bark	gr. 15
Boric acid	gr. 50

Prepare the mixture and the sauce as in the preceding.

IV.

Coleman's mustard	av.oz. 9
Sugar	av.oz. 1
Salt	av.oz. 1
Pepper	av.oz. ½
Cinnamon	av.oz. ¼
Ginger	gr. 75
Cardamom	gr. 50

Mix and reduce to fine powder.

It is to be mixed with good wine vinegar, or, better yet, a vinegar in which have been macerated some celery root, garlic, onion and chives.

Peptonized Foods. (Peptonoids or Peptones.)

PEPTONIZED GRUEL.—Prepare a gruel from any of the farinaceous articles in household use, wheat flour, oatmeal, arrowroot, sago, pea or lentil flour. The gruel should be well boiled, thick and strong, and to every pint, allowed first to become lukewarm, add 5 or 10 grains of pancreatin, and when the preparation has become largely fluid, or much thinner than at first, it may be raised to the boiling point to check the action of the ferment, and is then ready for use.

Peptonized gruel is not by itself a very palatable food, but combined with peptonized soup, milk or jellies, is very satisfactory.

PEPTONIZED MILK GRUEL.—Take a strong gruel prepared as above and add an equal volume of milk and keep at about 125 degrees F. (52 degrees C.). To each pint of the mixture add 5 to 7 grains of pancreatin and 20 grains of sodium bicarbonate, then set aside for 2 or 3 hours in a warm place, and finally raise to the boiling point, strain and it is ready for use. Care should be exercised not to allow the process to proceed too far, as otherwise the preparation is not palatable, the preparation acquiring a bitter taste.

The peptonized gruel or milk gruel may be made more acceptable to many persons by adding a little pure gelatin or isinglass, after the final boiling, allowing to cool in molds and serving with sugar and cream.

PEPTONIZED BEEF TEA.—Mix ½ pound of finely minced lean beef with a pint of water and 20 grains of sodium bicarbonate. After simmering two hours cool down to about 115 degrees F. (46 degrees C.) and add 10 grains of pancreatin. Set aside for 2 or 3 hours, with occasional stirring, decant from the residue and boil. The "tea" is now ready for use. This is of higher nutritive value than ordinary beef tea.

See also "Beef Tea, Cold Prepared."

PEPTONIZED OYSTERS.—The oysters of an ordinary stew are removed and finely minced, then return to the liquid and bring to a temperature of 100 degrees F., then peptonize the whole stew same as for pure milk. When peptonization is sufficiently advanced, in

about ½ an hour, the mixture may be strained and may be served hot at once, or heated to boiling, gelatin added, allowed to cool and solidify, when it may be served cold.

PEPTONIZED MILK TOAST. — Ordinary milk toast, in which there is an abundance of milk, treated as described for the preceding, becomes an almost homogeneous pulpy mass, which, when the crusts are removed, is usually acceptable to an irritated stomach.

PEPTONIZED MILK.—See "Milk, Peptonized."

PEPTONIZED KUMISS. — See "Kumiss, Peptonized."

Racahout. (Compound Powder of Cacao.)

I.

Cocoa, powder	av.oz.	2½
Starch	av.oz.	5
Sugar	av.oz.	12
Salep	av.oz.	1
Vanilla	gr.	10

Mix all, reducing to fine powder.

II.

Cocoa, powder	av.oz.	8
Rice flour	av.oz.	4
Sugar	av.oz.	4
Cinnamon	gr.	60

Prepare like the preceding.

III.

Cacao, deprived of oil	av.oz.	3
Arrowroot	av.oz.	4
Sugar	av.oz.	12
Salep	av.oz.	1
Vanillin sugar	gr.	7

Mix well.

IV.

Roasted cacao beans	av.oz.	4
Tapioca	av.oz.	6
Potato meal or flour	av.oz.	6
Sugar	av.oz.	8
Vanilla extract	fl.dr.	1

Prepare like the preceding.

For the cacao beans may be used an unsweetened, unflavored chocolate.

V.

Roasted cacao, or chocolate	av.oz.	2
Arrowroot	av.oz.	5
Sugar	av.oz.	8
Salep	av.oz.	1
Vanilla	gr.	30

Rennet Essence. (Liquid Rennet.)

I.

Calf's stomach		1
Salt	av.oz.	5
Boric acid	av.oz.	¼
Alcohol	fl.oz.	5
Water	fl.oz.	50

Open the stomach; use as much salt as will adhere to the inner surface; cut into small pieces; macerate 1 hour in 16 fluidounces of water and 1½ av. ounces of salt, stirring well at intervals; strain through muslin; repeat maceration twice, as before; dissolve the boric acid in the mixed strained liquors; add the spirit little by little and filter through kaolin or purified talcum.

II.

Calves' rennet, fresh	av.oz.	3½
Salt	av.oz.	1½
Alcohol	fl.oz.	6½
Water	fl.oz.	26

Dissolve the salt in the water, add the alcohol, and macerate in this mixture the rennet (or the washed mucous membrane of the fresh stomach of a suckling calf) during 3 days, agitating frequently; then filter. —N.F.

III.

Some operators prefer to use dried rennets. For this purpose, the fresh rennets of calves, from 5 to 10 days old, are rinsed in water, blown up and hung up to dry in this distended condition. Dry rennets give less trouble to filter clear than fresh rennets. The following formula may be employed:

Dried rennet, chopped fine		1
Sodium chloride	av.oz.	3
Boric acid	av.oz.	1½
Water	fl.oz.	32

Macerate the rennet, 1½ av.ounces of salt and the water for 5 days, stirring frequently, then add the remainder of the salt and the acid; when the latter are nearly all dissolved, strain and filter.

See also "Rennet Wine" and "Rennet Powder."

Various food preparations are made from milk by the use of rennet as follows:

JUNKET AND COLD CUSTARD.—To a quart of milk, warmed, add a tablespoonful each of sugar and brandy and 2 teaspoonfuls of rennet essence; stir only to mix, allow to cool,

and flavor with nutmeg or other condiment, vanilla or other essence. More brandy and sugar may be added if desired; the former may be omitted.

SLIP, CURD AND WHEY.—Add 2 teaspoonfuls to a pint of milk, warmed to blood heat; a firm curd will form in a few minutes. The addition of egg to the milk before adding the rennet, gives an additional richness. The mixture may be flavored or sweetened. The curd should be beaten with a fork or an egg beater. If only the whey is wanted, strain the mixture.

FRUGOLAC.—Add 2 or 3 tablespoonfuls of any fruit syrup (strawberry, raspberry, pineapple, etc.) or fruit jelly to the surface of junket or custard after it has formed.

Rennet Powder.

Calves' rennet, fresh	av.lb.	1
Table salt	av.oz.	3½
Milk sugar, powder		sufficient

Reduce the rennet, by chopping in a meat-cutting machine, to very fine particles, preferably passing through the machine several times. Then mix intimately with the salt and 10 av. ounces of milk sugar, spread the liquid obtained in thin layers upon glass plates, and dry at a temperature between 35 and 40 degrees C. in a drying closet. Reduce the resulting scales to the finest possible powder, and mix with enough milk sugar to make 1 av. pound.

It should be preserved in well-stoppered bottles. One grain is sufficient for 1 pint of milk.

This preparation may be made much weaker if desired.

See also "Rennet Essence" and "Rennet Wine."

Rennet Wine.

Calf's rennet, fresh, washed		1
Salt	av.oz.	1
Water	fl.oz.	8
Diluted alcohol	fl.oz.	8
Sherry wine	fl.oz.	16

Cut the rennet, knead together with the salt and set aside for a day; then add the water and diluted alcohol, let macerate for several weeks, add the sherry wine and filter.

See also "Rennet Essence" and "Rennet Powder."

Revalenta.

I.

Corn flour (fine corn meal)	av.oz.	7
Pea or bean flour	av.oz.	7
Sugar	av.oz.	½
Table salt	av.oz.	½

Mix, reduce to fine powder and pass through a fine sieve.

II.

Prepared barley meal	av.oz.	5
Bean flour	av.oz.	10
Table salt	av.oz.	1

Prepare like the preceding.

The prepared barley meal is barley in which the starch has been partially converted to dextrin as by roasting in closed vessels.

Salad Dressing. (Mayonnaise.)

I.

Salad (best olive) oil	fl.oz.	4
Vinegar, best	fl.oz.	4
Distilled water	fl.oz.	4
Yolks of 4 eggs.		
Mustard	av.oz.	½
Salt, table	gr.	60

Mix the eggs with the mustard, add the oil next, then add the remaining ingredients and mix well.

II.

Mash the yolk of a hard-boiled egg, add to it the yolk of a raw egg and rub together until smoothly incorporated; add sufficient salt to flavor, and if desired, a small amount of capsicum or black pepper, and then add olive oil, the very best, little by little, thoroughly incorporating each time. The amount of oil to be used will depend upon individual taste, but 2 to 2½ fluid-ounces will usually not be too much. The vessel in which these ingredients are mixed should be kept cold by setting it on cracked ice if the weather is warm, and the stirring should continue until the mixture is of the consistence of freshly churned butter. This is the true mayonnaise, but many like to add some vinegar. This can be done only at the expense of the consistence of the mixture if the vinegar be added in the ordinary way. The oil may be prepared beforehand by agitating it thoroughly for several minutes with strong vinegar, allowing the mixture to stand for 12 to 24 hours, decanting the oil from the surplus of vinegar, and incorporating as before.

Spices, Mixed.

I.

Cardamom	gr.	60
Pimento	av.oz.	¼
Red saunders	av.oz.	½
Ginger	av.oz.	1
Cinnamon bark	av.oz.	4
Sugar	av.oz.	12
Oil of lemon	drops.	10

Mix well, reducing to fine powder.

II.

Turmeric	av.oz.	½
Nutmeg	av.oz.	1
Cloves	av.oz.	1
Mace	av.oz.	1
Cinnamon	av.oz.	1
Caraway	av.oz.	2
Pimento	av.oz.	2
Coriander	av.oz.	8

Reduce all to powder and mix well.

Sterilization of Milk.

Milk, like most other organic fluids, is an inviting field for the growth and propagation of micro-organisms, usually termed germs, and more scientifically known as bacteria and microbes (although the latter terms do not include all kinds of micro-organisms—yeast, for example). The germs present in milk may come from the system of the animal or they may find entry at the time of milking or subsequently, as from the teats of the cow, from the dust of the barn or yard, or from unclean vessels. Not all germs are harmful, but germs present in milk from the above sources are usually so, particularly such as come from a tuberculous cow. Milk containing these harmful germs may cause, when drank, disease or illness; it may cause bowel complaints, especially in infant feeding, and may be a cause of tuberculosis or consumption. In fact the drinking of milk is probably not an uncommon cause of tuberculosis, as cows are particularly susceptible to this disease, and the germs of this disease will naturally be present in all the secretions of their bodies.

The elimination or keeping out of all kinds of germs will unquestionably have a very beneficial effect, as not only will the normal and abnormal fermentative processes be stopped, thus improving the keeping quality of the milk, but the hygienic value will be much greater when there is freedom from harmful germs.

To obtain milk germ-free, it is necessary to examine herds of cows as to their physical condition, separating the healthy animals, feeding these carefully with suitable food, exercising the most absolute cleanliness in the care of the bodies (external) of the animals, the barn, milking, utensils, vessels, etc., bottling the milk as soon as drawn, and at once sealing the containers hermetically.

The hygienic value of such a milk is very great, but the difficulties in obtaining it are also great, and it requires almost extraordinary care and watchfulness, and these necessarily involve considerable expense.

Although such germ-free milk is obtainable, it is now quite customary to purchase milk through the ordinary channels of trade and to destroy the germs contained therein, to sterilize, as it is called. Milk may be rendered sterile by chemicals, but when such agents are capable of destroying germs, they may also destroy human life and they are therefore not available for this purpose.

STERILIZATION.—This, in general, is a process of heating food products to destroy the germs. Sterilization of milk is the process of heating milk to a temperature at or near the boiling point for a considerable length of time. By this method all of the germ life is more or less affected, the organisms in the vegetative condition being entirely destroyed, and the more resistant spores killed, or weakened to such an extent that their power of development is much diminished. The boiling of milk, which was at one time a common practice, was a process of sterilization, but the latter is now generally conducted in bottles.

Milk so treated has its physical and chemical characteristics altered somewhat; it has a pronounced cooked taste and it is not easily assimilated by the system, making it of inferior nutritive value and not well adapted for infant feeding. This process also requires, as a rule, the use of superheated steam, which is not generally available and for which is needed an apparatus strong and

well-made so as to resist considerable pressure. This process is therefore not available except for large commercial purposes.

A modification of this process is the heating of milk in hot water or a stream of steam in the ordinary way, as in a can. This process is known as pasteurization.

PASTEURIZATION.—This differs from sterilization in the application of a much lower degree of heat for a shorter time. The high temperature is maintained long enough to destroy the developing germs, but no attempt is made to kill the spores, as these are always able to withstand a much severer treatment.

The conditions as to temperature and time under which vegetating germs are destroyed by heat vary with the different kinds of organisms. As a rule, exposure to a temperature of 130-135 degrees F. (55-58 degrees C.) for 10 minutes is usually fatal, but some bacteria, notably the tubercle bacilli, are able to withstand a higher temperature. Inasmuch as the danger from this organism is greater than from any other disease germ, the minimum limit selected is the maintenance of a sufficient heat for a sufficient time to destroy this bacillus. The temperature that destroys this germ also destroys the typhoid fever and cholera germs and the pneumococcus.

The highest available temperature should be below that at which the milk acquires a permanently cooked taste. This gives some latitude in heating as the milk may then be treated for 30 or 40 minutes to 148 to 150 degrees F. (65 degrees C.), or, by increasing the temperature, the same effect may be produced at 160 degrees F. (71 degrees C.) for 10 or 15 minutes. A medium temperature of 155 degrees F. (68 degrees C.) for 15 or 20 minutes is probably the best, as mistakes in quick and accurate thermometer readings, or in the accuracy of instruments are liable to occur, and if a medium temperature is selected, danger from overheating is practically avoided.

While the heating process is essential in destroying the growing germs, it is quite as necessary that the product be immediately cooled and thoroughly chilled so as to prevent the germination and growth of the spores that were not destroyed by the heat. The temperature at which the milk is stored after pasteurization largely determines the keeping quality of the product; the lower the temperature the slower the development of the contained spores and the less rapid the subsequent changes in the milk. If the milk has been properly handled and stored in an ordinary refrigerator, it will usually keep sweet from 3 to 6 days, and may keep for 2 or 3 weeks.

It has been recommended by high authority to sterilize milk by heating water to boiling in a suitable vessel, remove from the fire, put in the milk contained in bottles, which are stopped with cotton, close the vessel, allow to remain for ½ hour, then take out and put on ice as before.

STERILIZERS.—Many kinds of apparatus intended for the pasteurization of milk are in the market. These are tin or copper vessels provided with a cover; the milk is contained in 6 or 8 ounce graduated, cylindrical, narrow bottles ("sterilizing bottles") provided with perforated rubber stoppers. These bottles are filled with milk, the rubber stoppers are inserted, they are then put into a wire rack which fits the sterilizer, the latter is closed tightly, and heat is applied. By means of a thermometer the temperature may be watched and regulated, and when the steam or water reaches the desired point the heat must be so adjusted that temperature remains at this point for the required time. The bottles are then to be sealed hermetically by closing the perforations in the rubber stoppers by means of glass plugs. The bottles when cool enough should be placed on ice.

A cheap but effective sterilizer may be made by taking an ordinary tin pail sufficiently tall, and putting in the bottom an inverted pie plate of about the same diameter as the pail, the plate having numerous perforations so as to prevent "bumping" during heating. Any bottles may be used as sterilizing bottles, but the regular sterilizing bottles are now readily obtainable and should be preferred. The bottles should be filled with milk, inserted in the pail, the latter filled with water

up to a point even with the milk in the bottles, the cover put on, and heat applied as before. The temperature may be watched without removing the cover by having a chemical thermometer passed through a perforated cork which is fitted into a hole in the cover. When the liquid has been heated long enough, the cover should be removed, the bottles closed at once with plugs of clean cotton, —not necessarily absorbent cotton—and the sterilized product preserved as before. The closing of the bottles should be immediate, to prevent the entry of new germs from the air.

Milk used for infant feeding should be the best obtainable, as, naturally, the better, i. e., the more nearly germ-free, it is, the better will be the pasteurized product. It is also advantageous to pasteurize the milk as soon as received.

Mixtures of milk, cream, water, sugar, etc. intended for the feeding of infants may be pasteurized as described for milk.

The vessel used for mixing the food should be perfectly clean; it should have been cleansed by rubbing, not mere rinsing, and, therefore, a wide-mouthed vessel is to be preferred.

When sterilizing bottles are emptied they should be cleansed at once with hot water and sodium bicarbonate or borax.

Sugar, Colors for.

So-called "sugar sands" may be prepared by tinting granulated sugar with the coloring agents enumerated in Chapter IV., and then drying. The coloring agents prepared with alcohol are to be preferred for coloring sugar, as the alcohol has no solvent action upon the latter.

Vanillin Sugar.

Vanillin	gr. 15
Sugar	gr. 485

Mix well.

This is of about the same proportionate strength as vanilla sugar.

Vinegar, Pickling. (Solution for Pickles.)

To preserve pickles in casks, the following process will give good results:

I.

Wash the pickles thoroughly, and pack them in the cask until it is nearly full, then add the following solution:

Vinegar, good	gal. 1
Salt	av.lb. 1
Alum, powder	av.oz. ¾
Capsicum	gr. 90
Cloves	gr. 45
Salicylic acid	gr. 30

Mix and dissolve, and pour enough upon the pickles to cover them thoroughly.

Or use the following:

II.

Vinegar, good	gal. 1
Salt	av.oz. 4
Black pepper, bruised	av.oz. 7
Ginger, coarse powder	av.oz. 4
Pimento	av.oz. ¾

Four av. ounces of shallots, also a very small amount of garlic, may be added.

Vinegar, White Wine.

The following makes an excellent imitation:

Acetic acid, U.S.P	pint 1
Sherry wine	pint 1
Tartaric acid	av.oz. 1
Acetic ether	fl.dr. 2
Water	enough to make gal. 1

Wine Whey.

Add a cupful (about ½ pint) of white wine to a pint of boiling milk, and strain when cold.

CHAPTER XXII.

ADVERTISING SODA.

The soda fountain offers opportunities for successful advertising not presented by any other department of a drug store. Tact and skill are quite as essential to success here as in the advertising of anything else, but a greater number and variety of methods may be employed with resulting profit.

Tact is shown in adapting the advertising to the conditions surrounding the particular store—in the faculty to advertise where it is advantageous, and at the time that will prove most profitable. Skill is exhibited in the ability to make the advertising more effective, to make the products of one's fountain more popular than those of competitors.

No refined class of advertising should be tabooed in pushing the soda department to the front. Soda water is now as nearly an article of common consumption as anything not classed as one of the "staffs of life." Being an article for everybody, and wanted by almost everyone, all plans of pushing it into attention that have been used with success in promoting other lines may be used with profit for soda. Some will pay better than others; but if tact is shown in choosing the plan and the season, and skill is exhibited in the nature of the advertisements, good results will follow. Judicious use of local newspapers, attractive circulars, pleasant invitations to opening days—one or more in number; tasteful booklets, appropriate signs for the windows and the interior of the store—including the use of effective illustrations; distribution of tickets and coupons, the display of inviting signs outside the store which suggest a desire for a beverage suited to the day, and the place at which it may be had in the highest state of perfection—all will add to the profits of the soda department.

Window Signs.

These should be made neatly, and printed for the occasion by means of a printing press, but, inasmuch as only about one to four of a kind are usually needed, it is advisable to make the signs with rubber type, a set of which every up-to-date business man should possess. The use of rubber type permits contrasts in the color of the ink, largely increasing the effectiveness of the sign.

If signs printed with type are not considered sufficiently attractive they may be painted with a brush. The proprietor, soda dispenser, or other clerk may be an adept in the use of the brush. If so, he should make the signs, which will be more attractive than those printed. The lettering of these signs should be plain and without flourishes, so as to be easily legible. It should also be done in black on white paper; no other combination is so legible, although a pale pink paper is very satisfactory, attracting, oftentimes, more attention than white paper, and not interfering much with legibility. The paper should, preferably, be rather thin, so that it can be read through at night.

The remarks or statements on these signs should be brief and to the point; they are intended only for the passer-by who may happen to glance casually at the window, and extended statements would fail to impress him. An appropriate illustration, with brief, well-chosen remarks, makes a profitable store or window sign.

A good sign to put up is one calling attention to the purity and freshness of the flavors dispensed, as

> We Make Our Own Fruit Syrups.

Or

Our Fruit Syrups Made Right from the Fruit.

If something new or acceptable in one of the old-line drinks, such as chocolate, coffee, lemon, orange, etc., can be devised, then either of these signs may be suitable:

Have You Tried Our Chocolate? If Not, Why Not?

Our Chocolate Is Simply Delicious.

If a fancy drink is being pushed, something in the following style may do service:

Kola Flip Is a Great Bracer.

Each season will suggest the best manner in which special drinks may be pushed into prominence. Cold drinks are not confined to the warm season, nor hot drinks to the cold season. It is the experience of many that warm drinks are in most active request during the chilly, raw days that are numerous in spring and autumn. The display of a sign—

For That Chilly Feeling Drink Our Hot Chocolate.

will be the means of bringing many persons into the store with a look of gratefulness for the welcome suggestion.

The announcement, by a proper sign, that

Our Hot Lemonades Are Good for Colds.

will draw those who are suffering from this common affliction of the chilly seasons.

Circulars.

The method of advertising by the ordinary circulars has become so common as to raise a reasonable doubt of its utility in this case. Originality, however, will bring good results here as in the promotion of other lines. The home distribution of circulars advertising such an article as soda water is, however, actually valueless in large cities.

Instead of a house to house distribution, the circulars may be gotten up in the form of an invitation, typewritten or printed letters, these to be mailed to possible or probable patrons. The objection to this method is that the names ordinarily obtainable in a large city are the names of the heads of the households—the men, who are usually not good soda customers. True it is that these circulars reach the female members of the household and the children, but the advertisement has lost its force, because the letter was not specifically directed to them.

In many places this method of advertising may be highly successful. The circular may advantageously take the form of a four-page booklet, the reading matter to be brief and cordial in tone, and as attractively printed as facilities and necessary considerations of economy will permit. If suitable illustrations can be added so much the better; in fact, advertising of the present time is not considered complete without illustrations.

A great deal of the success in circular advertising, like that of all other methods of advertising, is in the wording Never let the remarks be too long, as people have not, or think they do not have, the time to read them. The remarks should be forceful, earnest, convincing, as though in "dead earnest"; every advertiser should show in his advertisements, as far as type can convey, the impression that he sincerely believes the truthfulness of his statements. Earnestness wins in advertising as well as elsewhere. Go directly to the point; never beat about the bush. Readers want to get at the gist of the matter at once; they do not care for the rubbish that may accompany it.

The wording should be positive and forceful; people must be told what to do. The advertising should, therefore, be usually in the form of a command. In a circular letter addressed directly to the individual, the tone of the advertisement, however, should be different. A cordial invitation is best; a request is also approved by experience.

The advertisement should always be fair and reasonable. It is well to admit that your competitor's goods are fair, but impress the people with the fact that yours are better, and specifically enumerate the points of superiority.

It is always advisable for the advertiser to write the advertisement himself; he knows best what he wants to say and how best to reach patrons. If he is not a master of language, he should frame the wording, and then submit it to a competent critic who may "dress" the matter up or "tone" it down as may be required.

In circular, as well as other advertising, it is better not to attract attention at all than to attract unfavorable attention. There should be no slang or unnecessary levity, but a bit of humor or a little pleasantry is not necessarily excluded. The appropriateness of the application of humor to the particular subject must always stand as the criterion for its employment in advertising.

When a circular is printed, see to it that the matter is not crowded. It should be printed on clear, good paper, which may be white or other color that will show well; blue, for example, would not be satisfactory, because it does not offer sufficient contrast to the black print.

Newspaper Advertising.

Advertising in the large city newspapers is not to be thought of by soda water dealers, as it is too expensive, and reaches territory from which dealers can not expect returns. Advertising in the newspapers of small communities is, however, in some localities attended with excellent results. This advertising, like any other, must be brief, pointed, positive, and forceful. The advertisement should be changed at frequent intervals; the article advertised need not be changed, but the advertisement should be altered in expression. Illustrations will add so much to the effectiveness of the advertising that a few well-chosen cuts should be secured, at the beginning of the season, by every dispenser of soda. Properly used, these illustrations will prove a highly profitable investment.

"Grand Opening."

A good plan is to have, every spring, a "grand opening" day or perhaps two such days, when soda water of any kind whatever may be dispensed without charge. In some communities it will be profitable to have one day each month of the regular season on which free soda is dispensed. Attention to these special days may be called by means of four-page folders printed on substantial paper of any attractive color or pleasing tint, which can be distributed from house to house. These folders need not be very large, say not to exceed four by five inches. Upon the front page may be the following:

Soda Water
With Our Compliments.

The second and third pages may call attention to the superiority of the soda water and to the "opening" days, or the second page may be devoted to the soda water and the third to the superiority of the drugs or prescription department. The fourth page may mention some suitable specialty, a face lotion, for example, or it may give the address in large, fancy, but legible, type.

Very many of those who come for free soda will make it a point to purchase other goods—things they may have been needing, or will need, and which they might otherwise purchase elsewhere.

Everyone entering the store on such a day should of course be invited to have a glass of soda.

Instead of having the soda entirely free, the "free" days might be somewhat extended and the soda offered once to all purchasers, the amount of the purchase not to be limited—stamps as a purchase being of course excluded. Many of those who make purchases—men, for example—may not care for the soda; a card could be issued to these which would entitle their wives or children to the free soda.

Sign Boards.

Soda water dealers who may be in business on or near a road or street where cyclists pass back and forth, may advertise advantageously on the fence boards along the road. These signs should be brief. They need not be all the same; some should simply call attention to the soda, others to special drinks for cyclists, others should give the location—always give the exact address and how to get there—of the dealer. Wheelmen do not care so much for sweet, foaming drinks, but rather for "solid," substantial beverages; kola and coca drinks are favorites with them, owing to their tonic, bracing properties.

Every dealer may also have a sign board in front of his place of business upon which he can advertise various lines of goods. Soda water may be advertised in summer, mentioning one popular beverage on one day, another on another day, a new special drink on still another day, frequently, however, replacing with an advertisement for some other line of goods, as the one thing may become boresome to the public.

General Remarks.

But whatever methods of advertising are used, be sure to have the interior of the store and the articles advertised of such a character that customers will be induced to return. It would, for example, be useless to advertise the superiority of the soda water and have the windows or the articles in the windows begrimed with dirt or smoke. It would be a vast item of expense, with no possible hope of return, to advertise a "free day" for soda water and then serve an inferior article or to have the appointments unclean, to permit the attendant to wear a soiled jacket, or allow the store in general to wear a neglected appearance. It would hardly pay to serve good soda water on the "free day" or to "brush up" for the day and to dispense subsequently an inferior soda.

The remarks in Chapter II. relative to the attendant, service, etc., apply with especial force if advertising is to be successful. The attendant should be clean, polite, tactful, quick, etc.; the apparatus, glasses, spoons, etc., should be clean, polished and bright; the soda should be cold, the syrups cold and fresh, and the ice cream of just the right consistency.

CHAPTER XXIII.

SUPPLEMENTARY.

[Embracing the latest creations in "soda" drinks of all kinds.]

Owing to the completeness of this work as originally compiled and edited it has not been considered necessary or advisable to make any extended alterations in the subject matter of this work. Republication at this time, however, offers opportunity to introduce formulas for all the later creations of the soda dispenser's art.

Alhambra Cream.

Prepare a syrup as follows:

Peach syrup	fl.oz. 2
Orange syrup	fl.oz. 6
Vanilla syrup	fl.oz. 9
Cream	fl.oz. 7

In serving, draw about 1 ounce of this syrup into a 12-ounce glass, fill the glass half full with the coarse stream of carbonated water, and "finish" with the fine stream.

Alhambra Syrup.

Peach syrup	fl.oz. 3
Orange syrup	fl.oz. 8
Vanilla syrup	fl.oz. 12
Cream, to make	fl.oz. 32

Serve "solid" in 8-ounce glasses or with foam in 12-ounce glasses.

There is another preparation of the same name on page 67.

Almond Chocolate.

Almond essence	fl.dr. 1
Chocolate syrup	fl.oz. 32

Serve with cream or ice cream in 12-ounce glasses.

Angel Food.

Vanilla syrup	fl.oz. 1
Red orange syrup	fl.oz. 1
Ice cream	oz. 2
Shaved or cracked ice	soda glassful ¼

Shake together in the usual manner, strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Angostura Phosphate.

Prepare a lemon phosphate in the usual manner, then add two dashes of angostura bitters.

Ariom.

Apricot syrup	fl.oz. ½
Peach syrup	fl.oz. ½
Rose syrup	fl.oz. ½
Cream	fl.oz. 2
Shaved or cracked ice	soda glassful ½

Shake together the same as any other egg drink (see page 111), strain into a 12-ounce glass, add the coarse stream of carbonated water to nearly fill the glass, and "finish" with the fine stream of carbonated water.

Arosia.

Pineapple juice	fl.oz. 2½
Plum extract	fl.dr. ½
Quince extract	fl.dr. ½
Solution of citric acid	fl.dr. 1
Soda foam	fl.dr. 2
Soda syrup	fl.oz. 32

Yellow coloring, to color light yellow.

Serve like other soda syrups, in 12-ounce glasses, with or without ice cream.

Bimbo Flip.

Strawberry syrup	fl.oz. 1½
Ginger syrup	fl.oz. 1
Lime juice	fl.oz. ¼
Egg	1

Prepare and serve like other egg drinks as described on page 111.

Bisque Syrup.

Roasted almonds	av.oz. 4
Extract of vanilla	fl.dr. ½
Soda syrup	fl.oz. 32

Break up the almonds to coarse powder, boil for a few minutes with about 8 ounces of the syrup, allow to cool, strain, and add the extract and the remainder of the syrup.

This is to be served in 12-ounce glasses with or without ice cream.

Blizzardine.

Orgeat syrup	fl.oz. 1
Catawba syrup	fl.oz. ½
Ice cream	tablespoonful 1
Shaved or cracked ice	soda glassful ½

Shake together in a shaker, strain into a 12-ounce glass, nearly fill the

glass with the coarse stream of carbonated water, and "finish" with the fine stream.

Bonnie Belle Cream.

Pineapple syrup .....fl.oz. ¾
Vanilla syrup .....fl.oz. ¾
Ice cream .....oz. 2
Egg 1
Shaved or cracked ice.....
..... soda glassful ¼

Shake in a shaker, or glass and shaker (as described on page 111), strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Brunswick Cooler.

Lemon syrup .....fl.oz. ½
Orange syrup .....fl.oz. ½
Cherry syrup .....fl.oz. ½
Shaved or cracked ice.... glassful ¼

Add carbonated water, coarse stream, to nearly fill a 12-ounce glass, "finish" with the fine stream and dress the drink with pineapple and cherry fruit.

Caramel Syrup.

Extract of coffee .....fl.dr. 1½
Extract of vanilla .....fl.dr. ½
Caramel .....fl.dr. 1
Chocolate syrup .....fl.oz. 8
Soda syrup.....to make fl.oz. 32

Serve in 12-ounce glasses with or without ice cream.

Carnation Flip.

Pineapple syrup .....fl.oz. 1
Strawberry (or raspberry) syrup .....fl.oz. 1
Cream .....fl.oz. 4
Ice cream .....spoonful 1
Egg 1
Shaved or cracked ice.....
..... soda glassful ¼

Shake in a shaker, or glass and shaker, as described on page 111, strain into a 12-ounce glass, fill the latter with the coarse stream of carbonated water and sprinkle on some powdered nutmeg.

Carnation Float.

Make a plain lemonade in the usual manner, fill the glass to within an inch of the top, then in the center of the glass hold the spoon upright, and down the side of the latter slowly pour in grape juice until the glass is full.

Catawba Frappé.

Catawba syrup .....fl.oz. 2
Orange syrup .....fl.oz. ½

Draw into a 12-ounce glass, add shaved ice to half fill the glass, add water to nearly fill the latter, then fill with carbonated water, stir with a spoon and serve with straws.

Cherry Egg Bounce, Hot.

Egg 1
Cherry juice .....fl.oz. 2
Sugar, powder .....spoonful 1

Mix thoroughly in an 8-ounce mug, fill up the latter with hot water, mix again, add several cherries, a slice of orange, and a sprinkle of nutmeg.

Chinese Punch.

Shaved or cracked ice.....
..... soda glassful ½
Tea syrup .....fl.oz. 2

Carbonated water, coarse stream, to fill the glass. Stir with a spoon and serve with straws.

Chocolate Frappé.

Chocolate syrup .....fl.oz. 1½
Ice cream .....oz. 2
Cream .....fl.oz. 2

Mix thoroughly in a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Chocolate Nectar.

Vanilla extract .....fl.dr. ½
Orange flower water .....fl.dr. 4
Chocolate syrup ...to make fl.oz. 32
Carmine solution to color reddish-brown.

Draw 2 ounces of this into an 8-ounce glass, add one ounce of cream, and fill the glass with the coarse stream of carbonated water.

Chocolate Punch.

Chocolate syrup .....fl.oz. 2
Egg 1
Shaved or cracked ice.....
..... soda glassful ¼

Milk enough to fill a 12-ounce glass.

Shake together, as described for egg drinks on page 111, strain into a 12-ounce glass, fill the latter with the fine stream of carbonated water, and add some whipped cream.

Claret Glacé (Claret Klondike).

Fill a sherbet glass with finely shaved ice, pour on an ounce of claret syrup, and garnish with a thin slice of lemon. Serve with a sherbet spoon.

Claro.

Juice of lemons 3
Strawberry juice .....fl.oz. 4
Raspberry juice .....fl.dr. 4
Solution of citric acid .....fl.dr. 6
Soda foam .....fl.dr. 4
Soda syrup .....fl.oz. 48

Serve like other soda syrups with or without ice cream, in 12-ounce glasses.

Coca-Cincho.

Orange syrup .....fl.oz. 12
Raspberry syrup .....fl.oz. 8
Vanilla syrup .....fl.oz. 3
Elixir of calisaya .....fl.oz. 4
Wine of coca .....fl.oz. 4

Serve "solid" in 8-ounce glasses, with or without cracked or shaved ice.

This is similar to "coca-calisaya" mentioned on page 143.

Coffee Maltrose.

Coffee syrup .....fl.oz. 1½
Egg 1
Malted milk .....teaspoonful 1
Cream .....fl.oz. 1½
Cracked or shaved ice, soda glassful ½

Shake together, strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Coney Fizz.

Orange syrup .....fl.oz. 1
Strawberry syrup .....fl.oz. 1
Juice of one-half lemon.
Shaved or cracked ice.....
..... soda glassful ¼

Shake together in a shaker, strain into a 12-ounce glass, nearly fill the glass with the coarse stream of carbonated water, "finish" with the fine stream, and decorate with fruit.

Cream-de-Swift.

Vanilla syrup .....fl.oz. ½
Strawberry syrup .....fl.oz. 1
Cracked or shaved ice, glassful.. ¼
Milk, enough to fill a 12-ounce glass.

Shake well, strain, and top with whipped cream.

Cream Cordial.

Rose syrup .....fl.oz. ½
Pineapple syrup .....fl.oz. ½
Vanilla syrup .....fl.oz. ½
Orange syrup .....fl.oz. ½
Cream .....fl.oz. 1
Shaved or cracked ice.....
..... soda glassful ¼

Shake in a shaker, strain into a 12-ounce glass, nearly fill the glass with the coarse stream of carbonated water, and "finish" with the fine stream.

Creamed Pineapple.

Crushed pineapple .....fl.oz. 1½
Cream .....fl.oz. 2
Crushed or shaved ice, ...glassful ¼

Shake together, strain into a 12-ounce glass, add carbonated water, coarse stream, to nearly fill the latter, and "finish" with the fine stream.

Crescent Sherbet.

Pineapple syrup .....fl.oz. 16
Orange syrup .....fl.oz. 16
Vanilla syrup .....fl.oz. 12
Sherry wine .....fl.oz. 4

Serve as a "solid" drink in 8-ounce glasses, using 1 or 1½ ounces of this syrup and filling the glass with the coarse stream of carbonated water.

Cubanade.

Orange syrup .....fl.oz. 1
Grape juice .....fl.oz. ½
Lemon juice .....fl.dr. 1
Essence of ginger .....a few drops

Put into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Egg-a-la-Mode.

Orange syrup .....fl.oz. ½
Peach syrup .....fl.oz. ½
Pineapple syrup .....fl.oz. ½
Lemon syrup .....fl.oz. ½
Egg 1
Shaved or cracked ice.....
..... soda glassful ¼

Shake in a shaker, or glass and shaker (as described on page 111), strain into a 12-ounce, nearly fill the glass with the coarse stream of carbonated water, and "finish" with the fine stream.

Egg Cocoa.

Chocolate syrup .....fl.oz. 1
White and yolk of egg 1
Cracked or shaved ice .....
.....small quantity

Shake well in a shaker, or glass and shaker (as described on page 111), strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Egg Soda.

Lemon syrup .....fl.oz. ½
Vanilla syrup .....fl.oz. ½
Cream .....fl.oz. 1
Egg 1
Shaved or cracked ice, ...
.....about tablespoonful 1

Shake in a shaker or a glass and shaker (as described on page 111), strain into a 12-ounce glass, fill the latter three-fourths with the coarse stream of carbonated water, and "finish" with the fine stream.

Elks' Delight.

Juice of one-half orange.
Juice of one-half lemon.
Grape juice .....fl.oz. ½
Sugar, powder .....teaspoonful 2
Shaved or cracked ice.....
..... soda glassful ½
Plain water, enough to fill a 12-ounce glass.

Strain, add a cherry and a slice of orange, and serve with straws.

Fancy Lemonade.

Make a soda lemonade in the usual manner, and add a teaspoonful of raspberry or strawberry syrup, which will sink to the bottom of the liquid. Then carefully pour in a teaspoonful of grape juice, and serve without stirring. A piece of pineapple, orange or other fruit may be added to decorate the drink. It may also be served in a glass half-full of shaved ice. Serve with straws.

Fantasma Nog.

Wild cherry syrup .....fl.oz. 1½
Egg 1
Ice cream .....spoonful 1
Solution of acid phosphate.dashes 2
Shaved or cracked ice.....
..... soda glassful ¼

Prepare like egg phosphate as described on page 111.

Favorita.

Strawberry juice .....fl.oz. 4
Maple syrup .....fl.oz. 16
Juice of 6 lemons.
Soda foam .....fl.oz. 1
Soda syrup .....to make gal. ½

Serve like other soda syrups in 12-ounce glasses with or without ice cream.

Frosted Chocolate.

Chocolate syrup .....fl.oz. 1½
Shaved ice .....glassful ½
Carbonated water, coarse stream
.....about fl.oz. 6

Mix by stirring, strain into a 12-ounce glass, and fill the latter with the fine stream of carbonated water.

Frosted Coffee.

Coffee syrup .....fl.oz. 2
Cream .....fl.oz. 2
Shaved or cracked ice.....
..... soda glassful ½

Shake thoroughly in a combination shaker or in a glass and shaker, strain into a 12-ounce glass, fill the glass with the coarse stream of carbonated water, stir thoroughly, add a spoonful of whipped cream, and sprinkle lightly with nutmeg. Ice cream may be used instead of whipped cream.

Frozen Cream.

Banana syrup .....fl.oz. 2
Cream .....fl.oz. 8
Shaved or cracked ice.....
..... soda glassful ½

Shake together in a shaker, strain into a 12-ounce glass, add a few pieces of banana, fill the glass with the fine stream of carbonated water, and serve with a spoon and straws.

Fruit Lemonade.

Crushed ice .....glassful 1
Sugar, powdered ...tablespoonfuls 2
Juice of one-half lemon.
Juice of one-half orange.
Lemon .....slice 1
Orange .....slice 1
Pineapple ..... slice ½
Orange flower water .....drops 2

Prepare and serve like plain lemonade.

Fruit Malt.

Malt extract, thick .....fl.oz. 6
Raspberry syrup .....fl.oz. 2
Cinnamon syrup .....fl.oz. 2
Rose syrup .....fl.oz. 2
Orange-flower water .....fl.dr. 2
Orange syrup .....fl.oz. 12

This may be served as a "soda" drink with foam in 12-ounce glasses or "solid" in 8-ounce glasses or as a "phosphate."

Fruit Nectar.

Raspberry syrup .....fl.oz. 16
Grape syrup .....fl.oz. 16
Raspberry vinegar .....fl.oz. 2

Serve this as a "solid" drink in 8-ounce glasses, adding shaved ice if desired.

Fruit Shrub.

Pineapple juice .....fl.oz. 1
Grape juice .....fl.oz. 1
Raspberry juice .....fl.oz. 1
Extract of vanilla .....fl.dr. ½
Solution of citric acid .....fl.dr. 2
Soda syrup, enough to make fl.oz. 32

Serve like other soda syrups in 12-ounce glasses, with or without ice cream.

Ginger Bouquet.

Solution essence of ginger ..fl.dr. 10
Solution of citric acid ....fl.dr. 4
Essence of sarsaparilla ....fl.dr. 4
Extract of vanilla .....fl.dr. 4
Soda syrup .....to make fl.oz. 32
Caramel, ...enough to color.

Serve this as a "solid" drink in 8-ounce glasses. Shaved ice may be added.

Ginger Wine Toddy, Hot.

Ginger syrup .....fl.oz. ½
Tea syrup .....fl.oz. 1
Currant juice .....fl.oz. ½

Draw into an 8-ounce mug, fill the latter with hot water, and add grated cinnamon.

Golden Buck.

Yolk of egg 1
Orange syrup .....fl.oz. 2
Solution of acid phosphates, dashes 2
Shaved or cracked ice.....
..... soda glassful ¼

Shake together in a shaker, or in a glass and shaker (as described on page 111), strain into a 12-ounce glass, nearly fill the glass with the coarse stream of carbonated water, and "finish" with the fine stream.

Granola.

Orange syrup .....fl.oz. 1
Grape juice .....fl.oz. ½
Juice of one-half lemon.
Cracked or shaved ice.....
..... soda glassful, one-third

Mix in a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream. Serve with straws.

Grape-Ade.

Lemon syrup .....fl.oz. 1
Grape juice .....fl.oz. ½

Serve "solid" in 8-ounce glasses, filling the latter with the coarse stream of carbonated water, and stirring with a spoon.

Grape Cooler.

Grape juice .....fl.oz. 1
Orange syrup .....fl.oz. 1½
Lemon syrup .....fl.oz. ¼
Solution of acid phosphate ..dash 1
Shaved or cracked ice.....
..... soda glassful ¼

Mix in a 12-ounce glass, fill the latter with the coarse stream of carbonated water, stir with a spoon, add a slice of pineapple, and serve with straws.

Grape Cup.

Grape juice .....fl.oz. 32
Infusion of tea .....fl.oz. 32
Lime juice .....fl.oz. 8
Solution of acid phosphate ..fl.oz. 1

Keep cool with ice, serve in glasses three-fourths full, and fill with the coarse stream carbonated water.

By infusion of tea is meant "tea" as it is made for household purposes, preferably using a good grade of tea like English breakfast, pekoe, souchong, etc.

Grape Egg Phosphate.

Make an egg phosphate in the usual manner (see page 111) and add a tablespoonful of grape juice before serving.

Grape Glacé.

Grape juice .....fl.oz. 8
Water .....fl.oz. 8
Whites of 1 or 2 eggs.
Sugar, powder .....av.oz. 16

Beat the egg-white with some of the sugar, then add the mixed juice, water, and the remainder of the sugar.

Keep in a small pitcher or berry dish. Serve with a spoon.

This must be made fresh every day.

Grape Lemonade.

Grape syrup .....fl.oz. ½
Lemon syrup .....fl.oz. ½
Solution of acid phosphates..dash 1

Serve as a "solid" drink with the coarse stream of carbonated water.

Grape Orange.

Prepare like the preceding, substituting orange syrup for the lemon syrup.

Grape Sherbet.

Orange syrup .....fl.oz. 2
Grape juice .....fl.oz. 2

Draw into a 12-ounce glass, half fill the latter with shaved ice, then fill it with plain water, stir with a spoon, and serve with straws.

Hasty Pudding.

Crushed strawberries .....oz. ½
Crushed peaches .....oz. ½
Ice cream, to fill a small glass or sherbet cup.

Serve with a spoon.

Heavenly Twins.

Ice cream .....spoonful 1
Lemon ice .....spoonful 1

Put side by side on a decorated plate, place over it some crushed fruit, and serve with wafers.

Herculine.

Spirit of orange .....fl.oz. 1
Tincture of vanilla .....fl.oz. 1
Tincture of citrochlorid of iron...
..... fl.oz. 1
Solution of acid phosphates...fl.oz. 2
Soda syrup .....to make gall. ½
Caramel, enough to color light brown.

This is a tonic syrup, one ounce of which is to be served with carbonated water as a "solid" drink in 8-ounce glasses.

Hokey-Pokey Glacé.

Nectar syrup .....fl.oz. 1
Cream .....fl.oz. ½
Carbonated water, fine stream....
..... soda glassful ¾
Finely shaved ice, enough to fill the glass.

Add some whipped cream and serve with a spoon.

Ice Cream Sandwiches.

These are made by spreading a thin layer of ice cream between two sugared vanilla wafers.

Another way of preparing them is to have thin cakes like vanilla wafers of the size of the brick ice cream moulds, spread on them thin layers of raspberry or apricot jam, cut brick ice cream into

slices, lay a slice between the layers of cake, and place the whole in the ice cream cabinet until needed.

Ice Cream Shake.

Marshmallow syrup .....fl.oz. 1
Egg 1
Ice cream .....oz. 1

Shake together in a shaker, or glass and shaker (as described on page 111), strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Idlewild.

Strawberry syrup .....fl.oz. 10
Orange syrup .....fl.oz. 10
Pineapple syrup .....fl.oz. 10
Lemon juice .....fl.oz. 2

Draw 1½ ounces of this into a 12-ounce glass one-third filled with shaved ice, then fill the glass with the coarse stream of carbonated water, add a few strawberries, a slice of pineapple and a slice of orange, and serve with straws.

Independence Tonic.

Coffee Syrup .....fl.oz. 8
Elixir of coca .....fl.oz. 4
Tincture of cinchona .....fl.oz. 2
Medeira wine .....fl.oz. 2
Raspberry syrup .....fl.oz. 16

Serve "solid" in 8-ounce glasses, drawing 1 or 1½ ounces of this syrup and filling the glass with the coarse stream of carbonated water.

Kola Celery Tonic.

Fluid extract of kola .....fl.dr. 1
Tincture of celery seed .....fl.dr. 4
Solution of citric acid .....fl.dr. 3
Raspberry juice .....fl.oz. 1
Soda syrup .....to make fl.oz. 32

Serve "solid" in 8-ounce glasses, using about one ounce of this syrup.

Kola Syrup.

Fluid extract of kola (from fresh nuts) .....fl.dr. 2
Claret wine .....fl.oz. 12
Raspberry juice .....fl.oz. 1½
Solution of acid phosphates .fl.oz. 4
Solution of citric acid .....fl.oz. 2
Soda syrup .....to make gall. ½
Solution of carmine, to color deep red.

Serve "solid" in 8-ounce glasses, using about one ounce of this syrup and filling the glass with the coarse stream of carbonated water.

Kolasaya.

Blood orange syrup .....fl.oz. 16
Raspberry syrup .....fl.oz. 8
Wine of kola .....fl.oz. 4
Elixir of calisaya .....fl.oz. 4

Mix well and filter.

In serving, draw 2 ounces of this syrup in a 12-ounce glass, add cracked or shaved ice, and fill with the coarse stream of carbonated water. Top off with some fresh raspberries or a piece of orange.

Ladies' Choice.

Raspberry syrup .....fl.oz. 2
Peach ice cream ..tablespoonfuls 2

Serve in 12-ounce glasses like any "soda" drink with the coarse and fine streams of carbonated water.

Lime Juice Fizz, Hot.

White of egg 1
Lime juice .....fl.oz. 1
Sugar, powder .....spoonfuls 2

Mix in an 8-ounce mug, fill the latter with hot water, and add some whipped cream.

Lime Slip.

Pineapple syrup .....fl.oz. 2
Lime juice .....fl.oz. ½

Serve "solid" in 8-ounce glasses, adding a slice of orange.

Manhattan Cream.

Pineapple syrup .....fl.oz. ¾
Vanilla syrup .....fl.oz. ¾
Ice Cream .....oz. 2
Egg 1
Shaved or cracked ice.....
..... soda glassful ¼

Shake in a shaker or glass and shaker (as described on page 111), strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Oriental Fizz.

Strawberry syrup .....fl.oz. 1
Orange syrup .....fl.oz. 1
Juice of one-half lemon.
Shaved or cracked ice.....
..... soda glassful ¼

Mix in a 12-ounce glass, fill the latter with the coarse stream of carbonated water, stir with a spoon, and serve with straws.

Over the Waves.

Lemon syrup .....fl.oz. 1½
Grape juice .....fl.oz. 1
White of one egg.
Solution of acid phosphates..fl.dr. ½
Cracked or shaved ice, ...
..... soda glassful ¼

Shake in a shaker, or glass and shaker (as described on page 111), strain into a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream.

Orange Chocolate.

Extract of vanilla .....fl.dr. 2
Orange-flower water .....fl.dr. 4
Chocolate syrup ..to make fl.oz. 32

This may be served with cream or ice cream in 12-ounce glasses.

Orange Ferrone.

Orange syrup .....fl.oz. 16
Raspberry syrup .....fl.oz. 8
Vanilla syrup .....fl.oz. 4
Elixir gentian with iron ....fl.oz. 4

Serve "solid" in 8-ounce glasses, using 1½ or 2 ounces of this syrup.

Orange Mint.

Half fill a 12-ounce glass with cracked ice, draw in 2½ ounces of orange syrup, fill with the coarse stream of carbonated water, add a dash of essence of peppermint and a slice of orange, stir with a spoon, and serve with a straw.

Pan-American Lemonade.

Orange syrup .....fl.oz. 1
Lemon syrup .....fl.oz. 1
Sugar, powdered .....teaspoonful 1
Solution of acid phosphate...dash 1
Shaved or cracked ice .....
..... soda glassful, one-third

Fill the glass with the coarse stream of carbonated water, add two slices of orange, and serve with two straws.

Pepsin Phosphate.

Glycerite of pepsin, N. F.....fl.oz. 4
Raspberry syrup .....fl.oz. 8
Solution of acid phosphate..fl.oz. 2
Soda syrup .....to make fl.oz. 32

Serve "solid" in 8-ounce glasses, like other phosphates.

Phantom Bouquet.

Vanilla syrup .....fl.oz. 4
Pineapple syrup .....fl.oz. 8
Orange syrup .....fl.oz. 12
Orange-flower water .....fl.oz. 1

Serve in 8 or 12-ounce glasses with cream.

Pierian Spring Syrup.

Take one orange, cut into cubes, leaving the peel on; one peach, remove the peel and stone and crush the meat; one banana, remove the peel, and cut the inner part into cubes; one-half pineapple, remove the peel and grate the meat; one dozen strawberries, remove the calyces and crush; mix all with a half-gallon of soda syrup, previously colored red.

To serve, put ice cream in the bottom of a glass, add about an ounce of this syrup, and fill the glass with the fine stream of carbonated water.

Pineapple Ale.

Soluble essence of ginger ..fl.oz. 2
Pineapple juice .....fl.oz. 2
Solution of citric acid .....fl.dr. 2
Soda syrup .....fl.oz. 24

Serve "solid" in 8-ounce glasses like the "phosphates."

Pineapple Bonbon.

Fill a sherbet glass nearly full with crushed pineapple, place a spoonful of finely shaved ice, add a ladleful of crushed pineapple, place a spoonful of ice cream on top of all, and serve with a sherbet spoon.

A similar "bonbon" may be made with any other kind of crushed fruit.

Pineapple Frappé.

Cracked or shaved ice, ...
..... soda glassful ½
Crushed pineapple .....fl.oz. 2
Solution of acid phosphates .fl.dr. 1

Mix in a 12-ounce glass, fill the glass with carbonated water, stir with a spoon, and strain, into an 8-ounce glass.

Pineapple Lemonade.

Juice of one lemon.
Pineapple syrup .....fl.oz. 2
Carbonated water, to fill a 12-ounce glass.

Mix well, dress with fruit, and serve with straws.

Pineapple Paulette.

Pineapple syrup .....fl.oz. 1½
Ice cream .....oz. 2
Cream .....fl.oz. 1½
Cracked or shaved ice, ...
..... soda glassful ½

Shake together in a shaker, strain into a 12-ounce glass, add carbonated water, coarse stream, to nearly fill the glass, and "finish" with the fine stream.

Pineapple Punch.

Pineapple juice .....fl.oz. 2
Sugar, powdered .....spoonful 1
Shaved ice, soda glassful, one-third

Mix with a spoon, add 3 ounces of the coarse stream of carbonated water, add a little more shaved ice and a spoonful of crushed pineapple on top. Fill the glass with shaved ice, add a slice of pineapple, and serve with a spoon and straws.

Pineapple Snow.

Pineapple syrup .....fl.oz. 1
Sugar, powder .....teaspoonful 1
Cracked or shaved ice, ...
..... soda glassful ½

Add some carbonated water, stir in a shaker, strain into an 8-ounce glass, fill the latter with the coarse stream of carbonated water, stir again, add a slice of pineapple or some crushed pineapple, and serve with straws.

Another article of the same name is a mixture of cracked or shaved ice, cream and pineapple syrup, with or

without carbonated water, the whole being topped off with shaved ice and dispensed in a glass with a spoon.

Pink-Ade.

Cranberry syrup .....fl.oz. 16
Juice of 1½ lemons.
Solution of citric acid .....fl.dr. ½
Solution of acid phosphates .fl.dr. 2
Soda syrup .....fl.oz. 32

If necessary add cochineal coloring to impart a pinkish tint to the mixture.

Serve "solid" in 8-ounce glasses like the "phosphates."

Pink Tea, Hot.

Green tea .....av.oz. 1
Black tea .....av.oz. 1
Water .....fl.oz. 16
Sugar .....av.oz. 10

Make an infusion of the two teas with the water, strain in the liquid, dissolve the sugar, strain again, and color the liquid with tincture of cudbear.

In serving, put one ounce into an 8-ounce mug, fill the latter with hot water, and add a slice of lemon.

Raspberry Royal.

Raspberry syrup .....fl.oz. 1½
Raspberry vinegar .....fl.oz. ½
Cracked or shaved ice, ...
..... soda glassful ¼

Mix in a 12-ounce glass, nearly fill the latter with the coarse stream of carbonated water, and "finish" with the fine stream. Serve with straws.

Raspho.

Raspberry syrup .....fl.oz. ¾
Orange syrup .....fl.oz. 1¼
Tincture of ginger .....dash 1
Solution of acid phosphates..dash 1

Mix in 12-ounce glasses, using some shaved ice and the coarse stream of carbonated water. Serve with straws.

Root Beer, Hot.

Mix one fluidounce of root beer extract with 7 fluidounces of soda syrup. Use 1½ fluidounces of this syrup to enough hot water to fill an 8-ounce mug. Add a slice of lemon or a few drops of lemon juice.

Root Beer Cream.

Fill a 12-ounce glass to within one inch of the top with root beer drawn "solid," then float on enough plain cream to fill the glass. Serve without straws.

Samaritan Punch.

White and yolk of egg 1
Cracked or shaved ice, ...
..... soda glassful ¼
Nectar syrup .....fl.oz. 2
Milk ..... soda glassful ¾

Agitate in a shaker, or in a glass and shaker (as described on page 111), strain into a 12-ounce glass, and add some grated nutmeg.

Snow Top.

Orgeat syrup .....fl.oz. 1
Cream .....fl.oz. 2
White of egg 1
Shaved or cracked ice ....sufficient

Prepare like other egg drinks as described on page 111.

Square Meal.

Chocolate syrup .....fl.oz. 2
Egg 1
Ice cream .....spoonful 1
Milk .....enough to fill a shaker.

Shake well, strain into a 12-ounce glass, and sprinkle on some grated nutmeg.

Strawberry Cream Puff.

Put a large spoonful of ice cream in a glass, over it pour a ladleful of crushed strawberries. In another glass mix the contents of one egg, one ounce of strawberry syrup, and one ounce of plain cream, and add this to the mixture in the other glass. Serve with a spoon.

Sundaes (College Sodas—Throwovers).

What are known as "sundaes" have become very popular. They consist merely of plain ice cream over which is added or poured a small amount of some "soda" or crushed fruit syrup. The name of the sundae is derived from the syrup which is used; chocolate syrup makes chocolate sundae, vanilla syrup makes vanilla sundae, etc. These sundaes are usually served in what are known as sherbet cups or glasses with a sherbet spoon (which is smaller than an ice cream spoon). The nicest dispensers also serve a small glass of ice water with a sundae. See also next paragraph.

College Ice (Fruited Cream).

This is simply a sundae served with crushed fruit.

Canteloupe Sundae.

Cut a small-sized canteloupe in two, remove the seeds, and slice off a small portion from the bottom so that the half-sections will stand upright. Place in the half of the canteloupe the usual or desired amount of ice cream, on the latter put some crushed pineapple and whole cherries. Insert spoon upright in meat of canteloupe, place the latter upon a napkin and serve upon a fancy plate.

Sweet Clover.

Tea syrup .....fl.oz. 8
Maple syrup .....fl.oz. 4
Solution of acid phosphates.fl.dr. 2
Soda syrup .....fl.oz. 24
Color green with any suitable green color.

Serve "solid" in 8-ounce glasses like the "phosphates."

Turkish Punch, Hot.

Yolk of egg 1
Grapé juice .....fl.oz. 1
Lemon juice .....fl.oz. ½
Sugar, powder .....spoonfuls 2

Mix thoroughly in an 8-ounce mug, fill the latter with hot water, stir again, top off with whipped cream and sprinkle on some cinnamon.

Turkish Sherbet.

Crushed peach .....fl.oz. ½
Nectar syrup .....fl.oz. ½
Orange syrup .....fl.oz. ½
Solution of acid phosphates..... ..... dashes 4 or 5

Fill a 12-ounce glass with shaved ice, stir in the above sirupy mixture, garnish with a slice of pineapple and orange and a cherry, and serve with spoon and straws.

This formula is different from the one given on page 137.

Tutti Fruitti.

Spirit of lemon .....fl.dr. 1
Spirit of orange .....fl.dr. 1
Tincture of vanilla .....fl.dr. 1
Maple syrup .....fl.oz. 1
Solution of citric acid .....fl.dr. 4
Soda syrup .....to make fl.oz. 32

Serve like other soda syrups in 12-ounce glasses with or without ice cream.

Vanilla Puff, Hot.

Vanilla syrup .....fl.oz. 1
Cream .....fl.oz. 1
White of one egg.

Shake well, strain in an 8-ounce mug, fill latter with hot water, and add whipped cream.

Violade.

Violet syrup .....fl.oz. 1
Lemon syrup .....fl.oz. 1
Carbonated water .....fl.oz. 8

Stir with a spoon, pour into another glass half filled with shaved ice, add two slices each of lemon and orange, and serve with straws.

Wild Cherry Syrup.

The following is a useful addition to the formulas given on page 91:

Oil of bitter almonds.....drops 12
Alcohol .....fl.oz. 1
Red cherry juice .....fl.oz. 8
Syrup of wild cherry .....fl.oz. 4
Diluted phosphoric acid .....fl.dr. 4
Tincture of cudbear .....fl.oz. 1
Soda syrup .....to make gall. ½

Dissolve the oil in the alcohol and add the other ingredients.

The syrup of wild cherry should be of the U. S. P. strength but the menstruum should be water instead of a mixture of glycerin and water to avoid extracting an undue amount of tannin from the bark.

Yabarra Chocolate.

Orange syrup .....fl.oz. ½
Chocolate syrup .....fl.oz. 1
Cream .....fl.oz. 2
Shaved or cracked ice..... ..... soda glassful ½

Fill the glass with milk, shake and strain.

INDEX.

An Investment And Its Results

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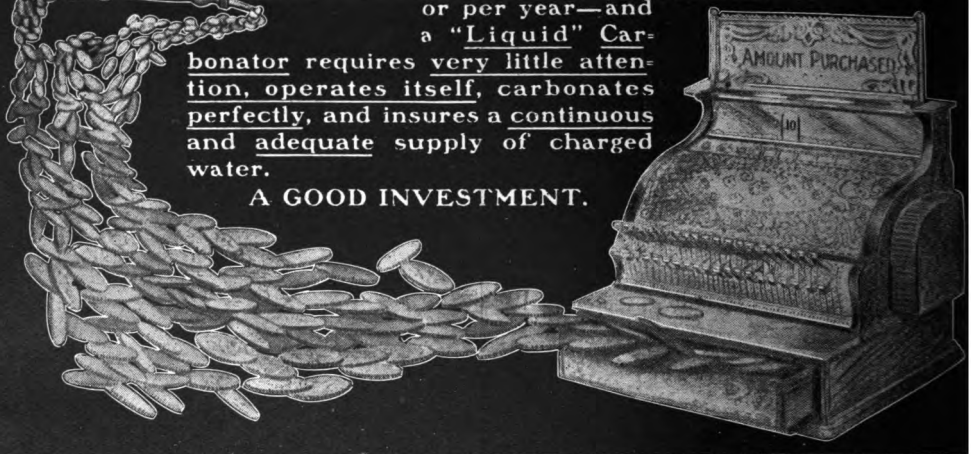

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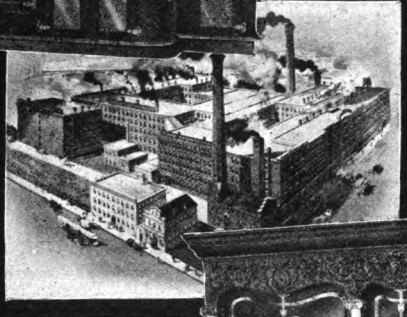

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